

Bulletin of the Pan American Union

International
Bureau of the
American ...

2 G980.6 P191 V.45 1917 LAC
2



LIBRARY
OF
THE UNIVERSITY OF TEXAS

PRESENTED BY
THE UNITED STATES

783.6

P91

BULLETIN
OF THE
PAN AMERICAN
UNION

VOL. XLV

JULY-DECEMBER

1917



JOHN BARRETT : Director General

FRANCISCO J. YÁÑES :: Assistant Director

WASHINGTON, D. C., U. S. A. : : : : : :
CABLE ADDRESS for UNION and BULLETIN: "PAU," WASHINGTON

151084





FOREST LAKE AND MOUNTAIN SCENE, USHUAIA, ARGENTINA.

The forests of the Temperate Zone regions of South America extend southward into the Patagonian territory and even to the shores of Tierra del Fuego. At these southernmost points the trees present a gnarled and twisted appearance, due to the violent action of the southern wintry blasts. In the mountain regions, however, to the north and along the shores of the Patagonian lakes, these forestal giants grow straight and stalwart. The beech tree and the conifer constitute the forestal growth of these regions.



VOL. XLV.

JULY, 1917.

No. 1

SOUTH AMERICAN PORT IMPROVEMENTS--EAST COAST¹

THE skipper who sailed to South American seaports a decade or more ago found it necessary to anchor his ship far out in the harbor or roadstead, as the case happened to be, and passengers and cargo were taken ashore in launches, row-boats, or lighters. Modern docking facilities were few. To-day in many ports along South America's 16,000 miles of shore line the lack of port and harbor facilities is still a handicap to shipping; but in considering the more important ports we find that millions of dollars have been expended during recent years. Indeed, the voyager of former days is amazed on revisiting the continent to see the marked improvements that stand to-day as monuments of progress. Financial outlays have been enormous; yet, in numerous cases, the work already completed is but a portion of the greater facilities that have been planned to meet the growing needs. Each port, if we delved into details, could easily furnish material for a volume; space, however, is available for little beyond a statement of main features of progress.

Nature has been kinder to the mariner in providing a vast number of sheltered bays, inlets, and rivers along the eastern coast of the continent than is the case on the Pacific side. From the Strait of Magellan to Panama on the Pacific there is nothing to compare with the natural facilities of the opposite coast line. Thus, the stormier ocean possesses the larger number of havens for those who sail the seas.

¹ By William A. Reid, Pan American Union staff.



A SECTION OF THE MODERN DOCKS AT PARA (BELME), BRAZIL.

Para is about 100 miles from the mouth of the Amazon. A deep channel leads from the main river to the port and docks. In a recent normal year 3,617 steam and sailing vessels entered this port, transporting thither \$29,000,000 worth of goods and bearing away \$18,000,000 worth of rubber and other products from the Amazon and its tributaries.

SCENES ON THE NORTHERN COAST OF BRAZIL.

Left: A front view of the dry dock at Parn, which receives many ocean vessels as well as the smaller ships that ply up and down the Amazon. On this great river ocean ships proceed upstream for more than 2,300 miles to Iquitos in Peru. Right: A section of the breakwater at Fernambuco, the foundation of which is the natural reef extending between the inner and outer waters of the port.





PHASES OF CONSTRUCTION WORK AT PERNAMBUCO, BRAZIL.

Upper: The great breakwater being built on the reefs between the harbor and the ocean. Before the construction of this bulwark the waves of the Atlantic dashed over the reefs with great fury. Lower: A completed section of the wall of the inner port. Note the splendid stonework, the material for which was obtained near Pernambuco. Back of this wall solid earth has been used as a filler and the sea front considerably enlarged.

Comparing South America's northern shore line with the narrow southern extremity we also note marked contrasts. In the north there are bays and rivers offering the mariner ample protection, and at a few ports the waters are usually so tranquil that it is proverbially said that ships may be anchored by hairs. Four thousand miles southward the Humboldt current sweeps up from Antarctic wastes and with its winds and waves dashes against the 1,400-foot sentinel, Cape Horn, with constant and well-known fury.

Sailing southward from New York with a view of casually inspecting some of the port improvements, our first call on South America might be at Para, that great rubber-shipping center which gives its name to vast quantities of this now universally needed article. Para, or Belem, as it is officially called to distinguish it from the State of Para, has grown because the world has annually demanded greater quantities of its products, or perhaps more strictly speaking, the products that float down the 40,000 miles of the Amazon and its tributary rivers from Bolivia, Peru, and Brazil.

In a recent normal year, 3,637 steam and sailing vessels cleared from Para; they carried thither more than \$29,000,000 worth of goods and bore away \$48,000,000 in rubber and other tropical products. Only a glance at this enormous trade is necessary to show a large revenue, for the country exacts taxes on its exports. A pleasing and growing revenue suggested better port facilities. About this time the capitalist, looking around for investments, decided on Para, and the Brazilian Government granted concessions to the Port of Para Co., a Maine (U. S. A.) corporation. That event occurred 10 years ago. Two years later, or in 1909, the first units of gigantic improvements were finished and inaugurated, and since that date ships have warped to modern docks.

To-day a mile or more of wall stretches along Para's water front, and the company above named has the privileges of conducting port services, operation of warehouses, quays, etc., for 30 miles—nearly equal distances up and down the river from the city proper. These concessions continue for 65 years, or if additional improvements are constructed, the privilege may be extended 25 years.

Para, on the Para River, is nearly 100 miles from the ocean. A channel 30 feet deep leads from the main river to the actual wall where ships dock. This channel requires frequent dredging, as the river brings down a vast amount of silt and much of the latter finds its way seaward via Para. The largest steamers, however, are able to go to the docks at all seasons, and modern electric cranes handle cargo directly from the many new warehouses that line the water front. The city itself, with its 250,000 people, has improved its streets and parks in recent years, and strangers find it interesting largely on account of its contact with upper Amazon life and activity.



AT THE PORT OF BAIIA, BRAZIL.

Upper: One of the big vessels of the Lloyd Brazileiro (Brazilian Line) at her dock. This is the *Minas Geraes*, and is a fair type of the Brazilian ships plying between Brazil and New York. Lower: Scene on the water front of the lower city when the activities of the day have released from labor the army of workers and their carts.



THREE PHASES OF PORT CONSTRUCTION AT RIO DE JANEIRO, BRAZIL.

Upper: One of the great sea walls under construction. After completion the water on the left of the wall was drawn to the outer bay and the area filled in with solid earth. Center: Completed section of piers showing the gigantic cranes, which move on railroad tracks as required, and several of the warehouses. Lower: A section of the sea wall nearing completion.

Seven hundred miles southeastward, passing many smaller ports, stands Brazil's most eastern city and port, Pernambuco (Recife). The population numbers 150,000 and, on account of years of former Dutch occupation, the city has possibly a more Dutch appearance than any other of Brazil.

A great reef extending along the shore for many miles has long been an obstacle to sea commerce, as only smaller vessels were able to navigate the shallow course into the inner harbor. The traveler going ashore from a large vessel anchored off the reefs of Pernambuco often has the basket experience—that of descending into the ship tender or launch by this means, owing to rough waters.

Pernambuco has planned to spend \$10,000,000 or more in providing better shipping facilities. Certain parts of the outer reef are to be blown up and a deep-water course thus provided for entrance of ships into the inner bay; extensive quay walls, additional warehouses and other improvements for making a first-class port are in process of construction. The present war has checked operations but much has already been accomplished, such as the building of breakwaters, sea walls, quarrying stone, and in otherwise getting the work well under way.

Southward 382 miles stands Brazil's third city of importance, Bahia. This city has completed a portion of the port improvements which began on an extensive scale in 1909, and which were inaugurated four years later. When the plans are carried to completion a sum of more than \$20,000,000 will be represented in harbor improvements. Bahia will have added a wall and quay 500 to 600 feet wide for a distance of 2 miles. Fifteen or more warehouses, each 330 by 65 feet, are included in the betterment plans, and several of these buildings have been finished and are in use. Steam cranes, some of which are already in service, range in lifting capacity from 3 to 10 tons.

The Bay of Bahia is 25 miles long and 20 miles wide with an entrance about 2 miles broad. Normally, we see ships from all the world anchored or moving about this great sheet of smooth water.

There are three practical ways for the hurried visitor to Rio de Janeiro (738 miles southward) to see one of the world's largest and most picturesque harbors, which is always alive with ships and shipping. Sugar Loaf Peak, guarding the entrance from the Atlantic, stands nearly 1,000 feet above the placid waters by which it is almost surrounded. An aerial cable railway operating hanging cars was constructed from lower levels to the top of this great sentinel. The view over the harbor, bays, and inlets is beautiful in the extreme. Corcovado, almost double the height of the nearer peak, rises commanding over the city and offers a still better and grander view. After seeing the harbor in this manner we take a steam launch and spend a day in little voyages here and there about the bay, large



ONE OF THE BEAUTIFUL PASSENGER LANDINGS AT RIO DE JANEIRO, KNOWN AS THE PHAROUX, BUT NOT SO GENERALLY USED SINCE THE CONSTRUCTION OF LARGER DOCKS.



Courtesy of The Americas

PARTIAL VIEW OF THE BRAZILIAN CITY, PORTO ALEGRE.

This city of 150,000 stands at the head of the Lagon dos Patos, about 150 miles from the sea, the route of ships being by way of Rio Grande do Sul and lengthwise of the lake.

SANTOS, THE WORLD'S GREATEST COFFEE PORT.
Upper: General view of a part of the upper bay, with lighthouse on the left. Lower: View of the harbor. On the right may be seen a number of ocean whips moored at the modern docks. The vessel in the foreground is the *Northern Prince* leaving the port with 116,292 bags of coffee, at Rio de Janeiro 9,615 bags and at Santos 27,250 bags were added to her cargo. When the ship sailed for New York she transported a total of 128,627 bags of coffee.



enough to shelter the ships of many nations, being 17 miles long and 15 miles wide. The bottlelike entrance is considerably less than 1 mile in width.

A few years ago the vessel arriving at Rio de Janeiro cast her anchor a half mile or so from shore and passengers and freight were slowly landed by means of small boats and lighters. To-day, how different! The ship draws up to one of the vacant spaces along the miles of wall that have been constructed on the water front; the passenger walks down the gang plank and into one of the great warehouses standing at intervals along the wall.

A loan of over \$40,000,000 was made to Brazil by the house of Rothschild, and in 1904 construction of Rio de Janeiro's docks on a gigantic scale was commenced. A commission was appointed whose members had charge of the various phases of the work. The plan, already executed to a large degree, called for the filling in of shallow areas along the edge of certain parts of the bay between the old shore line and the new sea walls. The first space behind the wall was set apart for cargo loading and unloading, next a wide strip of land was utilized for warehouses, while a still wider space was destined for new avenues in connection with Beira Mar, Central, and other famous thoroughfares of the Brazilian capital.

To the engineer and the builder the miles of walls that act as a buffer against the breakers or that serve as safe anchorages for ships are among the most attractive features of the modern development of Rio de Janeiro. The stonework is a marvel of beauty, strength, and permanency.

The next great seaport south of Rio de Janeiro is Santos, 225 miles distant, and a course usually covered by the average ship in a night. Santos is especially interesting to the traveler, as it is the world's greatest coffee mart. If one arrives between August and January, the season of shipping activity, he will see the docks and warehouses veritable beehives of activity.

Like other Brazilian ports, Santos has constructed an extensive quay or wall along the water front, and in the latter case this improvement extends for nearly 3 miles. Trains loaded with coffee are run onto the wall and hydraulic cranes capable of raising 5 to 30 tons or more do the work of hundreds of men. There are times, however, when a large army of laborers carry the bags of coffee aboard ship. Along this waterfront are many large warehouses lighted by electricity, modernly ventilated, fitted with traveling cranes, and otherwise provided for handling coffee on a gigantic scale. Brazil's average crop is approximately 12,000,000 sacks of 60 kilos (132.76 pounds) each, the great bulk of which is shipped from Santos.

The port of Rio Grande do Sul lies about 600 miles south of Santos. Along the southeast shore of Brazil lie several lakes and lagoons, the

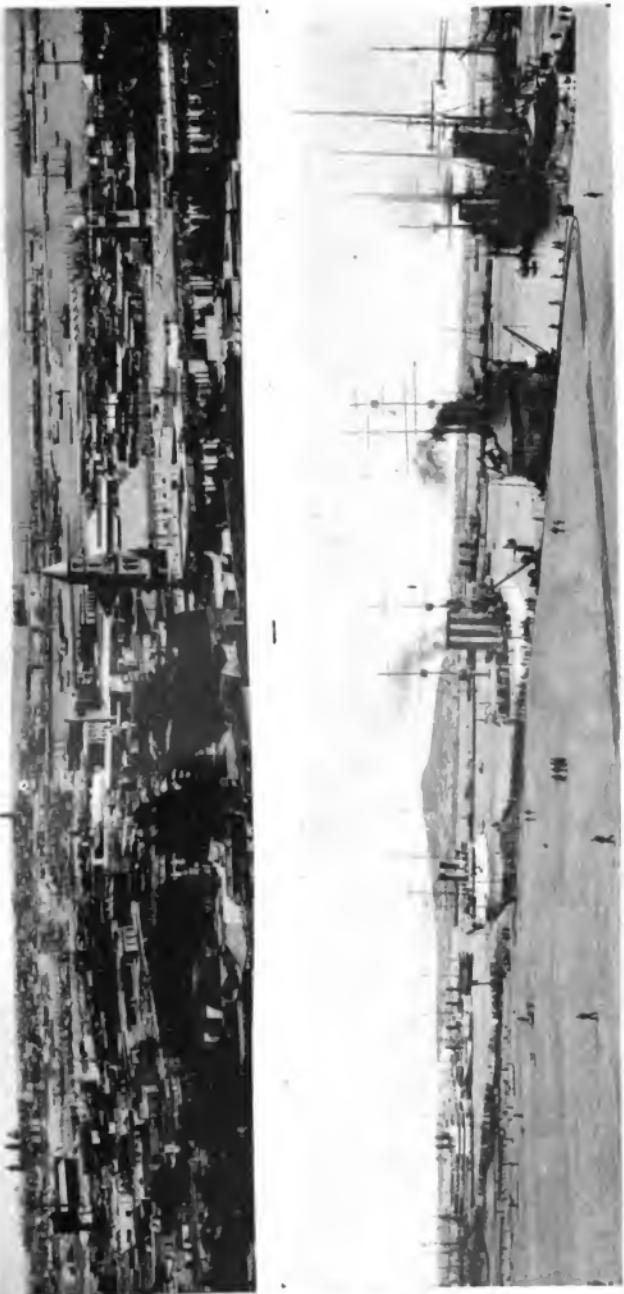


A SECTION OF THE NEW WATER FRONT AT RIO GRANDE DO SUL, BRAZIL.

This port is about 8 miles from the ocean, the connecting link being the river of the same name, but more properly an arm of the sea. By constructing breakwaters the current was made to deviate its own course. Pelotas and Porto Alegre are reached via Rio Grande do Sul; also there are railroad connections.

GENERAL VIEW OF THE PORT OF MONTEVIDEO, URUGUAY.

Upper: A section of the city, showing in the distance the arrangement of breakwaters and some of the new warehouses near which ships are docked. Lower: Another and closer view of a part of the harbor used by Uruguay's naval vessels. On the extreme left may be seen one of the fine river steamers that ply between Montevideo and Buenos Aires.



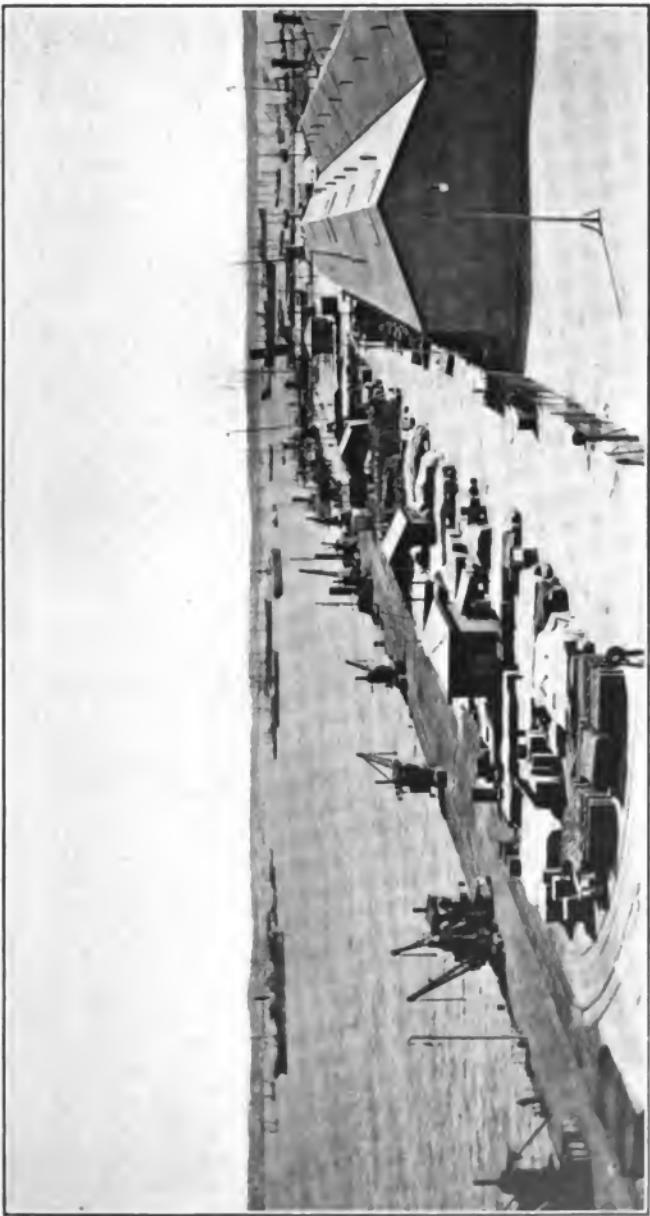
largest being Lagôa dos Patos, a body of water extending north and south 150 miles with a width of from 10 to 40 miles, separated from the ocean by a sand dune strip averaging 5 miles in width. A number of rivers and lagoons pour their waters into the larger lake; the latter empties into the Atlantic by the Rio Grande do Sul, more like an arm of the sea than a river.

Three Brazilian ports are reached through this waterway: Rio Grande do Sul, Pelotas, and Porto Alegra, rivals for maritime trading, although the average ocean vessel can go no farther than the first mentioned port. The populations of these cities are 30,000, 35,000, and 150,000, respectively. The former being the ocean port (8 miles from the sea), it is there that millions of dollars have been spent in dredging and improving the harbor. To some extent at least the outward flow of water was made to deepen its own channel by the construction of especially arranged concrete sea walls and jetties. In the harbor proper much land has been reclaimed behind the new wall, the latter now being of sufficient length to accommodate from 7 to 10 average size merchant vessels at the same time. Powerful and modern facilities for handling cargo are in use, together with numerous warehouses. The port properties are controlled by the Brazilian Railway Co. and its trains run directly onto the dock wall, alongside of which ships of 25-feet draft or more may anchor.

Those who have not seen Montevideo for a decade or longer, and who were accustomed to view the tedious handling of cargo as drivers urged their mule carts out into the water of the sandy beaches and there delivered products to lighters for another transshipment aboard the ship in the bay, will be amazed to inspect the port facilities to-day.

The Bay of Montevideo may be compared in form to a gigantic horseshoe opening toward the southwest, the entrance between Lobos and San José points being about 2 miles wide. The harbor is not naturally a deep one and a vast amount of dredging has been done to accommodate the constantly increasing ocean traffic.

Early in 1901 the Government of Uruguay began work on a very extensive scale to deepen the harbor and to construct the port on modern lines. Among the first purchases was dredging machinery which cost the sum of \$1,000,000, an outlay which at once suggested the important work to follow its use. For 10 years thereafter Uruguay expended more than \$1,000,000 annually for improving Montevideo's shipping facilities, not to mention the millions spent on her inland ports, and by 1910 a sum far in excess of \$15,000,000 had been paid for the work. Not only has dredging continued but sea walls or breakwaters have gradually been lengthened into the harbor. The eastern wall is more than 3,000 feet long, while the



A NEAR VIEW OF DOCK "A," MONTEVIDEO, URUGUAY.

This picture, which was made from the headquarters of the captain of the port, shows a portion of the completed improvements and the cranes for handling cargo. Many import and export products are stored within the warehouses and along the piers.



GENERAL PLAN OF THE PORT OF BUENOS AIRES, ARGENTINA.

The dark lines indicate present facilities for handling shipping. Broken lines on extreme right show proposed port extension to meet growing needs. Immediately in rear of these increased facilities several Argentine railroads have a direct their electric lines the Riachuelo River, on extreme left, additional docking facilities are available. The great

western one is nearly a mile in length. At the end of each wall is a flashing light to aid the mariner.

The main provisions, which have been carried out to a considerable extent, call for dredging certain portions of the harbor to a depth of 32 feet below low-water mark; another area has been deepened to 16 feet below low water, the latter for the use of smaller coasting vessels. There are several moles completed and alongside of these ocean ships now tie up for the discharge and loading of passengers and cargo. One of these moles has 15 traveling cranes and 6 fixed ones, all worked by steam and capable of lifting from 2 to 4 tons. Other completed moles are similarly equipped, while additional moles planned or under construction will offer still better facilities. Several floating cranes are owned by the company working on the contract, one of which has a 50-ton capacity.

To defray a portion of expenses of port improvements Uruguay levied what is termed a "patente," or tax, of 3 per cent on imports and 1 per cent on exports of Montevideo. In a 10-year period these taxes amounted to more than \$12,000,000, or in excess of \$1,000,000 a year.

Montevideo has not only improved harbor and docking facilities but has devoted a large sum of money to building lighthouses, installation of submarine bells, harbor buoys, wireless telegraph, etc. The Cerro, or hill, which is said to have been a point for which Magellan steered his little fleet centuries ago, now serves as a signal and wireless tower. It dominates the city and surrounding country for miles, and most visitors consider the historic hill a place of special interest.

Not all of the water front of Montevideo has been turned over to trade and traffic. Indeed, sections of the long sandy beaches have been made into playgrounds for the people, and it is there we find many amusement features of the modern pleasure resort and, during the days of summer, a vast throng of citizens enjoying the sea bathing and the delightful casinos and hotels for which Montevideo is famous.

The Rio de la Plata (river of silver), so named by Sebastian Cabot, who, according to fragmentary history, observed natives of the region wearing crude ornaments made of silver, is really an arm of the sea extending 150 miles inland. The river is 120 miles wide at its mouth and at the confluence of the Uruguay and the Parana this great width has decreased to about 4 miles. Unfortunately the Plata is comparatively shallow, and for this reason a vast amount of dredging has been necessary in order to deepen the channels for the larger ocean vessels of to-day.

Buenos Aires is about 130 miles from the ocean, and this great port officially includes La Plata, a smaller but growing shipping center 40



SECTIONS OF THE GREAT DOCKS AT BUENOS AIRES, ARGENTINA.

Upper: South Dock, looking down the rows of ships on either side loading and unloading cargo. Center: The "grain battery" from which thousands of tons of wheat and other grains are shipped annually to foreign markets. Between elevator and ship a continuous flow of grain quickly loads the latter. Lower: Scene from the deck of a departing ocean liner. Cargo has been previously loaded, passengers have been received, and the usual "good-bye" crowd stands upon the dock. If the vessel is bound to Europe or to North America, more than double the distance from New York to London must be covered before arriving at destination.



OTHER VIEWS OF THE GRAIN WHARVES AT BUENOS AIRES, ARGENTINA.

In the two pictures we have both distant and near glimpses of trade and traffic. Notwithstanding the enormous facilities, it frequently happens that two or three ships must dock at the same pier and load cargo directly and also from the lighters, shown in the lower picture.

miles nearer the sea. For 20 miles or more below Buenos Aires the river has been dredged, and to-day a channel admitting the largest ships (at most seasons) is in use. The rapidly growing trade, however, caused a new impetus to port facilities, and in 1911 a contract for improvements was made calling for an outlay of more than \$24,000,000 gold. A short time thereafter these gigantic plans were started and have progressed with gratifying results, although it may be several years before the whole system can be finished and put in operation.

From the main channel up the Plata there are shorter channels leading to two extensive basins within which are included more than 660,000 square meters. There are a great number of warehouses, many of which are the property of the Government, while others are privately owned. To operate the gigantic cranes, hydraulic power is used, and in a single case, which is fairly illustrative of many others, 10,000 tons of grain may be handled in a 10-hour day. This warehouse company has a capacity for storing 120,000 tons of wheat, and attached thereto is a mill with a daily output of 4,000 bags of flour. For miles along the water fronts of the two basins already mentioned and on both sides of the Riachuelo, a tributary of the Plata which serves as a part of the Buenos Aires port, one may see at all times an array of steam and sailing ships that are really astonishing in number. In 1913, the last normal year, the vessels that cleared the port numbered 2,588, carrying away 60 per cent of the entire foreign trade of the country.

In May, 1915, upon reviewing the actual work already accomplished on the extension plans, it was shown officially that certificates of work for \$5,561,528 gold had been approved. In area the new quays will cover more than 100 acres and be served by 30 or more miles of dock railroads.

Argentina's most important southern outlet is Bahia Blanca, 500 miles south of Buenos Aires, on the great bay of the same name. The trade of the port in recent years has gone forward by leaps and bounds, a condition largely influenced by the enterprise of the railways centering there and which spread fanlike to interior regions of the country. In 35 years Bahia Blanca has grown from 2,000 to 50,000 population and millions of dollars have been spent on the ports, known as Ingeniero White and Galvan. In the year 1912 these two ports reached their greatest activity, and the exports of grain amounted to 1,759,200 metric tons, while the shipment of wool showed a total of 93,800 metric tons. Participating in this trade were more than 400 steamships for the same period of time.

At Ingeniero White the first steel mole constructed has a quayage of more than 3,000 feet and can berth at least 10 vessels at the same



TWO BUSY PORT SCENES IN ARGENTINA.

Upper: This view of a portion of the harbor facilities at Ingeniero White, Bahia Blanca, shows the plans adopted for saving time and labor. The many tracks in the foreground are on the mainland. Lower: A part of the port of La Plata, showing the deep-water canal and facilities on either side for handling cargo. Ocean vessels draw up alongside the great meat-packing plant located there and load foods directly from cold-storage warehouses.



Photo by Underwood & Underwood.

TRAFFIC FACILITIES AT BAHIA BLANCA, ARGENTINA.

Upper: A part of the docks of the Southern Railway. This road ramifies into Argentina's southern wheat belt and its trains are run directly onto the docks and unloaded mechanically. Lower: A near view of one of the giant grain elevators. Loaded trains from the interior are quickly handled, the grain passing into the elevator for the cleaning process before entrance into the many chutes leading to the ship's hold.

time, the water depth being from 25 to 30 feet. A wooden mole with space of 754 feet was specially constructed for handling large volumes of grain in the shortest space of time, a necessity during the busy season. This mole and the electrically driven machinery make it possible to embark 10,000 tons of grain in a single day. A number of other moles act as auxiliary facilities, and all of these are equipped with the most modern machinery known to ports and harbors in any land.

Galvan, unit of the larger port, is located on land reclaimed from river swamp. This is also modern in design and equipment and has accommodation for at least 12 large vessels at long quays constructed of masonry; these quays are served by 30 railway tracks onto which trains loaded with grain are run as they come from the interior. Additional works are under construction.

Among the interesting features of the port of Bahia Blanca are the giant grain elevators which pour forth their valuable product directly into the ship's hold as the vessel lies alongside the pier. Two of these immense buildings each have a capacity for storing 26,000 tons of cereals; and into each building cars bearing 45 tons of grain are run and mechanically unloaded very quickly. A 5,000-ton ship may be fully loaded in from 6 to 8 hours.

A few miles from Bahia Blanca is Argentina's southern naval base, at which there are usually stationed a number of war vessels. A dry dock was recently finished which receives the giant sea fighters, *Rivadavia* and *Morena*, each of 28,000 tons displacement. As this dock is now the largest in South America it may be of interest to note some of its dimensions. First, the contract for the structure was let in 1911 and three years thereafter the excavations and preliminaries were completed. The total cost has been more than \$6,500,000, not including half a million additional for the latest machinery with which the dock is equipped. It is 600 feet long, 32 feet wide at base, 120 feet wide at top. Five pumps are used to discharge the water, and when all are working it requires only 1½ hours to empty the dock. Engineers Huergo and Gigliaza and Capt. Mauvette, of the Argentine Navy, designed and constructed this great work. The basin on which the dock is located has been dredged to 33 feet, a channel sufficiently deep to admit the larger vessels of the present time.



HABANA: THE GREATEST CLUB CITY IN THE WORLD

ONE of the most striking features of the general social life of the Cuban capital is the unique development of its clubs. The city has a population of about 350,000, and according to recent statistics at least 125,000, or over one-third of all the inhabitants, are members of some club. On the face of it, such a statement would seem hardly credible to a clubman in a city of the United States or Europe. The further assertion that there is one club in Habana whose membership has reached the enormous total of 45,000 seems equally unbelievable, and yet these statements are absolutely true. Practically every man in the city is a member of a club, whether he be a millionaire sugar baron or a hod carrier; and of the two, the latter has greater incentive to belong to his large social organization than has the former to join the select and exclusive club to which wealth and position in society are requisites for membership. This state of affairs is, to say the least, rather unusual and is due to certain features that are peculiar to a number of these organizations, and the following account, chiefly based on data furnished by Sr. Francisco A. Godoy, of Habana, may serve to elucidate the matter:

The leading clubs of the city, considered from the standpoint of number of members and wealth of their treasuries, are the various organizations known as "Centros." These were originally organized by Spanish residents of the city whose purpose was to unite in a social organization those of their compatriots who came from the same section of Spain. Thus the "Centro Gallego" was organized primarily for the benefit of the Galicians, the "Centro Asturiano" for natives of Asturias, and various other sections of the mother country were similarly represented.

In addition to its social and recreative functions, the "centro" soon developed certain mutual aid and benefit features, and it is these features that have made it not only a pleasant luxury but a real necessity in the lives of the people of Habana. The "centros" have in recent years not confined their membership to persons from the respective sections of Spain which have given their names to the various organizations, but most of them are still chiefly composed of Spanish born or the immediate descendants of such. The exception to this rule is the "Centro de Dependientes," one of the three largest and wealthiest of these organizations, which is the most democratic, and to which most of the Cubans and residents of foreign birth belong.

HOME OF THE CENTRO GALLEGO, HABANA, CUBA.

Courtesy of the Cuban Review.

Of all the great clubs and associations of Havana, the "Centro Gallego" is the greatest in point of wealth and membership. Its palatial home, pictured above, cost over \$1,000,000, occupies an entire city block, is equipped with all the luxury and convenience of the great social clubs of large world cities, and contains the National Theater. The "Centro" boasts a membership of 45,000 and an annual income in excess of \$1,000,000.





Courtesy of the *Cubs Review*.

GRAND STAIRWAY IN THE CENTRO GALLEGO CLUBHOUSE.

This view of the grand stairway of the Centro Gallego Clubhouse gives a glimpse of the architectural embellishment of the interior of this modern club. It is also provided with a large library, reading rooms, ballrooms, reception halls, billiard halls, gymnasium, and other features found in modern clubhouses.



Courtesy of the Cuba Review.

AN INTERIOR VIEW, CENTRO GALLEGO, HABANA.

Among the attractive features of the Centro Gallego are its spacious ballrooms and one of the largest billiard rooms in the world. This spaciousness is necessary to accommodate the great membership of the club, which has now reached over 45,000.



HOME OF THE "ASOCIACIÓN DE DEPENDIENTES," HABANA.

The Asociación de Dependientes is one of the three largest and wealthiest "centros," or clubs, of Havana. It was founded about 37 years ago and boasts of a membership exceeding 25,000. The upper picture shows its palatial home, the lower the main stairway in the building. In addition to the usual social club activities the Asociación maintains many novel features outlined in the text.

This remarkable "Clerks' Club" counts among its 25,000 members not only clerks, but merchants, professional men, artisans, men of wealth and leisure, as well as men who must work hard for their daily bread, and men of practically all nationalities who make their permanent home in the Cuban capital. Its doors are closed to no one who is honest and trustworthy, however rich or poor, if he can but keep up his modest dues of \$1.50 a month.

The club was founded about 37 years ago, and has grown to be one of the greatest social organizations in the Americas. Its magnificent building, which occupies an entire square of the city and cost \$1,000,000, has all the appointments, conveniences, and attractive features of the large social clubs of other American cities. Its immense ballroom will accommodate 3,000 couples at a time; its dining room contains 200 tables; and its billiard hall is said to be the largest in the world. Elegant reading rooms, a large library, well equipped gymnasium and modern bathrooms, are all adequate to accommodate the huge membership. In these features, as well as in its social entertainments, balls, etc., it is not different from the typical social club; but these form but a part of its attractions. The features that most appeal to the modest workingman, clerk, small merchant, and others of limited means may be briefly summarized as follows:

The club maintains free night schools for its members, where those of limited education may improve their general knowledge, study shorthand, bookkeeping, and various other subjects; it maintains a kindergarten for the benefit of their small children; grammar and high schools for larger boys and girls; domestic science classes where their wives and older daughters may take courses in cooking, sewing, and other domestic branches; it employs its own staff of surgeons, physicians, oculists, and dentists, who attend to the wants of the members free of any charges save perhaps for the material used in filling teeth or the lenses prescribed for the correction or aid of sight; it also maintains its own hospital, a sanitarium for consumptives, and an asylum for the insane. All of these advantages belong to each and every member, not as a matter of charity but as a matter of right. He pays his dues of \$1.50 a month and thereby becomes a partner in the organization, and is entitled to any of these privileges he desires.

These mutual aid and benefit features are not peculiar to the "Centro de Dependientes" alone; several of the other "centros" have practically the same features. Of all of them, the "Centro Gallego" is the largest and wealthiest. It has a membership of 45,000, an annual income of over \$1,000,000, and is housed in a palatial structure that cost over \$1,000,000. The second largest is the "Centro Asturiano," which has a membership of 37,000, composed chiefly of Span-



GRAND BALLROOM OF THE ASOCIACIÓN DE DEPENDIENTES.

To accommodate its large membership the Asociación de Dependientes, of Havana, has a ballroom that is large enough to permit of 3,000 couples dancing at the same time; its dining room has 200 tables, and its billiard hall is said to be the largest in the world.



THE CENTRO ASTURIANO, HABANA.

Top: A section of Central Park, Havana, showing the spacious club-house of the "Centro Asturiano," covering an entire city block, in the left center of the picture. Center: The "Quinta Covadonga," the splendid hospital maintained and owned by the "Centro Asturiano." Bottom: The administration building of the "Quinta Covadonga," the free hospital maintained by the "Centro Asturiano" for the benefit of its members.



A SECTION OF THE "PRADO" (PASEO DE MARTI), HABANA.

The building near the center of the picture, just beyond the automobile standing at the curb, is the home of the Casino Español, the largest and most prominent of the foreign clubs of Habana. On the same street is located the American Club, second only to the Casino in membership and importance.



MAIN STAIRWAY OF THE CASINO ESPAÑOL, HABANA.

One of the most sumptuously equipped of the strictly social clubs of Habana is the Casino Español; also the largest, in point of membership, of the foreign clubs of the city. The above picture of the main stairway of the clubhouse gives an idea of the architectural beauty of its interior.

iards but with a considerable Cuban contingent that is also represented on the governing board. It has one of the handsomest buildings in Habana for its home, covering an entire square and including one of the best theaters in the city. Some of the "centros," such as the "Balear" and "Castellano," admit women as well as men to membership, and for an additional fee of 50 cents a month give medical aid to other members of the family of a member. Although the medical services rendered are the chief attractions of these latter institutions, they also have a club house in addition to the sanitarium.

Relative to the popularity of the "centros" in general Señor Godoy writes:

The medical department undoubtedly is the drawing card of these institutions. It affords medical aid to the members at their homes, at the doctors' offices, or at the wonderful "quintas," or sanitariums, which each "centro" owns. A visit to these "quintas" is worth while. They comprise a number of modern hospitals for the treatment of every kind of disease, they have their own medical corps and parallel in equipment and service the best in the world. They have their own pharmaceutical department, which carries in stock a full line of drugs, medicines, and pharmaceutical sundries, for the exclusive use of the "quinta." An idea of their magnitude and importance may be had when it is stated that "La Benefica," the "quinta" belonging to the "Centro Gallego," treats over 12,000 patients a year, not counting the thousands of visits to and consultations with the doctors at their offices. In some of the "centros" patients are taken to the "quinta" only when the attending physician deems it necessary, otherwise they are treated at their homes. When treated at the "quinta" the room, meals, and prescribed medicines are furnished free of charge, and in the event of the death of the patient the club provides for a suitable burial in cases where the family of the deceased is unable to bear the expense.



A "CASTLE IN CUBA."

As the young Spanish emigrant nears the shore of his dreams, the famed "Pearl of the Antilles," his fancy pictures the palatial clubhouse, perhaps the "Centro Gallego," of which he is sure to become a member soon after his arrival at Habana. These "centros" are well known in the mother country and are among the chief inducements that lead young men of ambition to seek their fortunes in the New World. The above picture is a reproduction of part of the cover of the Centro Gallego year book.



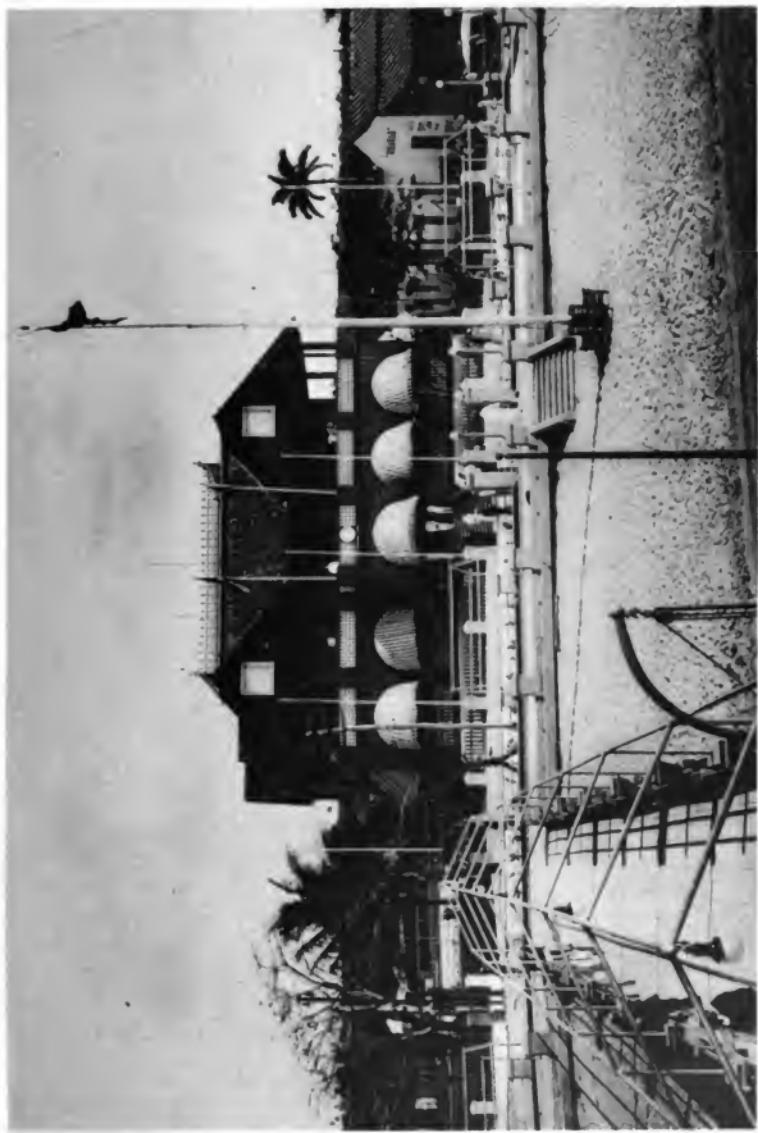
TWO OF HABANA'S CLUB BUILDINGS.

The building shown on the left bearing the sign "Asociación Canaria" is also the home of the "Club Atlético de Cuba," while the three-story building on the right is the clubhouse of the "Veteranos de la Independencia," or Veterans Club.



THE COUNTRY CLUB OF HABANA, CUBA.

The Country Club of Habana is located not far from Marianao Beach, and in point of membership and equipment will compare favorably with similar clubs in the United States. The upper picture shows a view of its clubhouse; the lower shows a portion of the golf links. While the membership consists chiefly of people from the United States, Cuban society is also well represented.



HOME OF THE HABANA YACHT CLUB, ON MARIANAO BEACH.

The Havana Yacht Club was organized in 1886 and counts among its members some of the leading men of the Cuban Republic. Aside from its activities in yachting, boating, swimming, etc., the club is noted for its elegant social entertainments.

One of the most useful features of the "centros" is the protection and good influence they exert in behalf of the youthful immigrant who comes to the Cuban capital from Spain, where these institutions have become well known. In this connection Señor Godoy writes:

A glance at the reproduction of the cover of the yearbook of the "Centro Gallego" tells the whole story. There we see a youth from Galicia arriving at the shores of Cuba. His first thoughts and desires picture the magnificent club building. He is probably coming to work in one of the large wholesale business houses on Muralla Street, where the greater part of Habana's commercial wealth is to be found. These houses we find to be invariably owned by Spaniards, and their clerical system differs a great deal from that of the United States. Here in the old Spanish business houses the clerks are given room and board, and it is naturally to the interest of the proprietor that his clerks be members of one of the "centros." He has probably had many of them come to him from their far-away home in Spain to take various clerical positions, and thereby incurs a measure of responsibility for their welfare. Therefore the first thing he does when a new member of his working force arrives is to make him a member of a "centro," himself often paying the required dues, which are subsequently deducted from the clerk's salary. Thus we find that the vast army of wage earners are practically all members of some one of these clubs.

In addition to the "centros," Habana has a large number of other clubs that differ in no material respect from the typical social, athletic, and political clubs of other large cities. For the sake of convenience these may be divided into city and country clubs. Among the former the foreign clubs occupy an important position, and of these the Spanish Casino is the largest; second comes the American Club, founded in 1902, which has steadily grown in membership until it now has something over 300. It occupies a well-appointed building on the Prado, Habana's beautiful boulevard, and has all the typical modern club features that are found in similar social organizations in the United States. Special banquets and social entertainments are given on patriotic occasions, such as the celebration of Washington's Birthday, Independence Day, etc., when the mayor of Habana and other officials are specially invited guests and the cordial relations between native society and the American colony are emphasized. Among other foreign clubs are two Chinese, which include in their membership the important persons of that race.

Of the strictly social clubs the oldest and most exclusive is the Union Club, a Cuban organization, which is restricted to men only and to whose functions the ladies are never invited.

In regard to the country clubs Señor Godoy writes in part as follows:

A great treat to visitors who may have the good fortune to be entertained at the country clubs of Habana is to attend one of the Saturday afternoon concerts by the Military Band at the Yacht Club on Marianao Beach. These entertainments are attended by Habana's smart set and usually last until late in the night. Dinner is served on small tables placed all along the concrete pier belonging to the club, while dancing goes on before and after refreshments are served. The club was founded in 1896 and from the time of its organization has been frequented by the most prominent people of the city.

BATHING BEACH OF THE HABANA YACHT CLUB.

Marianao Beach is noted for its fine bathing facilities and swimming is one of the principal recreations of the members of the Yacht Club. In the right of the picture is shown the solid concrete pier built out into the sea by the Yacht Club for the use of its members.





THE VEDADO TENNIS CLUB, HABANA.

Another famous organization of the Cuban capital is the Vedado Tennis Club. Besides its main sport, lawn tennis, the club members enjoy other outdoor sports, such as swimming, boating, etc., the clubhouse being located close to the seashore and affording excellent facilities for such activities.



THE Y. M. C. A. IN HABANA, CUBA.

Top: The home of the Young Men's Christian Association in Havana. Center: Interior view, showing entrance hall and office. Bottom: Swimming pool in the Habana Y. M. C. A. building.



HAVANA

"THE GREATEST CLUB CITY
IN THE WORLD"

139,894 - CLUB MEMBERS



NAME OF CLUB	GALLEGOS	ASTURIANO	DIPENDENTES	CANARIO	PALEAR	CASTELLANO	OTHER CUBANS
MEMBERS	45,000	37,281	25,329	16,040	8,000	41,000	41,244

Not far from this beach we come to the Country Club, a club which will compare favorably with any similar organization in the United States, and which boasts of splendid golf links, tennis courts, and the most picturesque of surroundings. Although its membership is composed chiefly of Americans, Cuban society is well represented. One of the unique entertainments of the club is their annual "red ball," given during the carnival season, upon which occasion the ladies are required to dress in red while the men wear either red suits or at least have on red neckties with their evening clothes.

Another organization which may be regarded as a country club is the "Vedado Tennis Club," whose main activities are of an outdoor and athletic nature. Being located near the seashore, yachting and boating are popular, although its chief attention is given, as its name implies, to lawn tennis. Its artistic home is located on a beautiful spot near the ocean and is the scene of many elaborate entertainments.

Among the women's clubs may be mentioned the "Lawn Tennis Club," located not far from the "Vedado Club," which was organized by the society girls of the city, and which is composed of a very exclusive membership; and the "Woman's Club of Habana," composed principally of married ladies, and whose activities are chiefly of a literary and educational nature. The majority of the members are American, but there is a substantial representation of Cuban ladies, who are also represented on the governing board. The club's activities in charitable works have made it specially notable.

In this sketch no account has been taken of the numerous medical associations, music clubs, secret societies, and various orders organized for specific purposes which have large memberships but are without those features that characterize real clubs. From those which have been noted, however, it may be seen that Habana is justified in claiming to be "The greatest club city in the world."

BRAZIL: TO-DAY AND TO-MORROW¹

TO PLACE before the reader a comprehensive picture of a country, to condense its history, to show the character of its people and their present status in the social and intellectual world, to explain their industrial activities and their economic, commercial, and financial position, all in a book of 300 and odd pages, is indeed a very difficult task. This is the task, however, that Miss L. Elwyn Elliott has accomplished in a most interesting and satisfactory manner in the volume entitled "Brazil: To-day and To-morrow," recently published by the Macmillan Company, New York.

To write a book of this character requires an intimate knowledge of the various subjects dealt with, and such knowledge the author

¹ Brazil: To-day and To-morrow. By L. E. Elliott, F. R. G. S., Literary Editor Pan American Magazine, New York. Illustrated. The Macmillan Company, New York, 1917. Price \$2.25.



A COFFEE PLANTATION IN SÃO PAULO, BRAZIL.

In regard to the Italian colonists in Brazil and their successful entry into the various national industries Miss Elliott writes: "The Italian has remained upon coffee fazendas, acquired land and coffee trees of his own, or taken up commercial work in the towns, rather than remain in *nucleo*; he has identified himself with the modern progress of South Brazil; taken up manufacturing, built himself some of the most splendid and extravagant homes in São Paulo, formed as it is for luxurious dwellings; the Avanida Paulista, pride of São Paulo, was as 'built on coffee,' and much of the wealth displayed there is Italian wealth, created during the last 25 years."



Photos by D. M. Haslett.

VIEWS OF PARA (BELEM), BRAZIL.

Belem, generally known to the world as Para, is the great rubber port of Brazil near the mouth of the Amazon, while about 1,000 miles farther up the great river is Manaos, the rubber metropolis of the interior. Of these two cities Miss Elliott writes: "It was in the golden period of Amazonian rubber exports that both Manaos and Para clothed themselves in all modern civic graces; fine public buildings, well-paved streets, street cars, good sanitation, water supplies of unimpeachable source, electric lights, and numbers of splendid private dwellings remain as a return for some of the floods of money earned by the gum of the deep forests." The upper picture shows the fine Teatro da Paz, in the Parque João Coelho, in Para, while the lower shows a view of the port from an ocean vessel anchored in the river.

has evidently acquired, not only by years of study of Latin-American countries and their people in general, but by personal residence for two years in the country of which she writes in the present work. The opinions expressed are certainly her own, based on personal experience and observation and not on what casual travelers have had to say anent the subjects she presents. This does not imply that her conclusions and judgments are necessarily infallible or correct in every detail and particular. Her opinions and observations are naturally colored by her own individuality, and no two people have exactly the same perspective. Taken as a whole, however, the book is remarkably free from bias and devoid of prejudice.

The first chapter of the book is a condensed history of the country from the time of its discovery to the year 1916, told in a lively and unpedantic style that lends this feature an interest usually lacking in historical sketches.

The second chapter, "Colonization in Brazil," gives the reader an insight into a phase of Brazilian life found in no other country of equal size and importance. The peculiar features are summarized in the following introductory paragraphs:

The story of colonization of Brazil is unique in the annals of the human movement across the world that has been going on ever since man began to multiply and to seek elbow room; it is one of the phenomena of exodus.

Arrival upon the shores of Brazil of an extraordinary variety of races was not a voluntary immigration in most instances. It was the result of a studied policy inaugurated by the Emperors of Brazil and carried on to the present day by the Federal Government and certain of the separate States; experiments in various kinds of people were made on a concerted plan, the colonies were grouped, in many cases isolated, retained their language and customs, still produce the food to which they were accustomed in the home land, and only become assimilated as their populations leave them or touch in time the fringe of others. The official mothering which they received tended rather to keep them grouped than to spread them in the earlier years.

The author then gives an account of the various efforts of colonization, beginning with the year 1817, when Dom João brought in some 2,000 Swiss settlers; the second influx, which consisted of Germans, the first colony being founded in Rio Grande do Sul in 1825 followed by numerous others in the southern part of the country until the total of German immigrants and their progeny amounted to about 250,000; the coming of Portuguese from the mother country to the number of 976,386; of Spaniards numbering 468,583; Italians to the number of 1,361,266; Russians, Austrians, Turks and Arabs, French, English, Japanese, Swedes, and Belgians, at various times and in smaller numbers. Of these immigrations the most important has been that of the Italians, and their successful colonization is briefly outlined in the following excerpt:

From the year 1820 to the end of 1915 a total of 1,361,266 Italians have officially entered Brazil as immigrants. With their children born in Brazil they total well over



Courtesy of the Lloyd Brasileiro.

VIEWS OF FORTELEZA, STATE OF CEARA, BRAZIL.

Top: The Government Palace. Center: View of the city from the harbor. Bottom: A street scene in the city.



Courtesy of the Lloyd Brasileira.

VIEWS OF RECIFE (PERNAMBUCO), BRAZIL.

Top picture: The lighthouse (Pharol de Olinda) near the entrance of the harbor. Second: The Capibaribe River wharf. Third: The Praia do Mar. Fourth: The quay for ocean vessels.

2,000,000 to-day, greatly outnumbering any other entering race. Their colonization has been a marked success, due not only to their personal characteristics but to the just treatment given them by the authorities. There was a time, soon after the abolition of slavery, when the colonos brought in to fill labor gaps complained of the relations between themselves and the fazendeiros. Realizing that the existence of friction and subsequent scandals would defeat their object, the São Paulo Government put machinery into working order, known as the patronato agricola, which adjusted differences, looked into social conditions, and took in hand the work of giving medical care and schooling to immigrants. The Italian has remained upon coffee fazendas, acquired land and coffee trees of his own, or taken up commercial work in the towns, rather than remain in nucleos; he has identified himself with the modern progress of south Brazil, taken up manufacturing, built himself some of the most splendid and extravagant houses in São Paulo city, famed as it is for luxurious dwellings; the Avenida Paulista, pride of São Paulo, was "built on coffee," and much of the wealth displayed there is Italian wealth, created during the last 25 years. The year of greatest immigration in Brazil is said to have been that of 1891, when, out of a total of nearly 276,000, about 116,000 were Italians; their influence upon prosperity in São Paulo may be estimated by the fact that more than 1,000,000 out of the State's 3,000,000 population are of Italian blood. No other State has so systematized immigration, perhaps because none had the pressing need and the immediate rewards to offer, as has São Paulo; she no longer pays passages on steamships but she maintains free hotels in Santos and São Paulo city, where five meals a day are given, good, airy rooms, baths, etc., and where immigrants are lodged for a week or until work is found.

The third chapter deals with social conditions in the country, and, without entering into other phases, the following excerpts, dealing with the literary and intellectual life as typified in Rio de Janeiro and São Paulo, are illuminating:

Life in the two chief cities of Brazil, Rio and São Paulo, takes its hue from the European capitals with which they are closely in touch, and from which they have derived mental food for many a generation. There is little about either of these fine cities, apart from the hot summers, the brilliant vegetation, their remarkable cleanliness, and the Southern Cross overhead to distinguish them from European cities. The clothes, amusements, buildings, and literature of the population are predominantly European, and there is not much to remind the visitor that he is in tropical South America. Rio is the "intellectual center" of Brazil, and here are gathered the scores of good writers and poets, the artists and politicians, of the country; there is a profuse and characteristic literature. If the North American writer was correct in saying that "American literature is only a phase of English literature" he would have been equally justified in saying that South American literature is a phase of French literature; yet in Brazil this would have less truth than in most parts of Latin America, because this country has so largely developed a series of writers who take native Brazilian life for their theme. There are long lists of Brazilian novels and poems which really reflect Brazil conditions in the very varied sections of the country. I know no other South American country whose literature is so emancipated, not from French style so much as from European subject matter. There is, for instance, the excellent work of the Visconde de Taunay, whose charming *Innocencia* is a picture of interior conditions, and has been translated into almost every language, not excepting Japanese. The books of José de Alencar form another series of provincial pictures; Machado de Assis wrote a number of historical novels of great merit and interest; Coelho Netto, Aluísio de Azevedo, J. M. de Macedo, Xavier Marques, are among a score of names of writers who have left records of Brazilian life. If I were advising the study of a brief list of such novels, this would be a preliminary dozen:



Photo by D. M. Haslett.

VIEWS OF SÃO SALVADOR (BAHIA), BRAZIL.

Bahia is the great tobacco center of Brazil. São Félix, just across the bay from the city of Bahia, is where the tobacco factories are located in the finest of the tobacco-growing regions of the country. The annual production varies from 20,000 to 45,000 tons, the average export being perhaps 30,000 tons. Prior to the European war the industry was largely in the hands of Germans, and it was to Germany that most of the exports were sent; however, much of the product goes to France.

Innocencia, by the Visconde de Taunay. Novel of fazenda life in the interior; a felicitous and touching story.

Os Sertões, by Euclydes da Cunha. Powerful and vivid description of a page of national history, with a setting in the interior Brazilian uplands.

O Sertão, by Coelho Netto. Scene also laid in the interior, with its simple customs.

O Mulato, Aluisio de Azevedo. Deals with the position of the negro half-caste in Brazil.

O Gaucho, José de Alencar. Life of the Brazilian cowboy.

Os Praieiros, Xavier Marques. Life of the fisherfolk on islands near Bahia.

O Paroara, Rodolpho Theophilo. Exodus of the Cearenses to the rubber forests of the Amazon.

Maria Dusá, Lindolpho Rocha. Story of diamond hunters in the interior of Bahia.

Braz Cubas and *Quincas Borba*, Machado de Assis. Historical novels dealing with colonial life.

Esphyngé, Afranio Peixoto. Social life of Rio and Petropolis, or *Dentro da Noite* or *Vida Vertiginosa*, by "João do Rio," also social life of the capital.

There are also the finely written novels of Brazil's woman writer, Julia Lopez de Almeida, whose *Fallencia* is a very skillful piece of work; and no study of Brazilian life would be complete without José Verissimo's *Scenas da Vida Amazonica*, preserving tales and legends of the Amazon, and the kindly *Memorias da Rua do Ouvidor*, of J. M. de Macedo, telling tales of the early days of Rio de Janeiro.

Poets are many. The "Prince of Brazilian poets," acclaimed by public vote, is Olavo Bilac, whose *Via Lactea* is a beautiful work; he is one of the most distinguished members of the Academia Brasileira, whose president is the publicist and orator of international fame, Senator Ruy Barbosa.

Olavo Bilac is something more than a poet; he has recently made it his mission to sound a "call to arms," addressed to Brazilian young men, with the object of bringing about physical and moral improvement through military service. His addresses in the capitals in 1915 made a great stir; he later, in the middle of 1916, began a tour of Brazil, penetrating into interior regions as well as visiting coast towns, to repeat his appeal. A most admired and beloved poet, Bilac has prestige which few other people could bring to such a self-appointed task.

After Bilac comes Alberto de Oliveira and a long list of other dexterous versifiers; many produce charming poems, and he who wishes to have an acquaintance with classical Brazilian verse must read the output of Gonçalves Dias, who took the life of the Indians for his theme, as well as that of the lyric writer Gonzaga and the graceful Claudio da Costa.

The fourth chapter deals with the matter of transportation by sea, river, and rail. Especially featured is the excellent account of the development of the railway systems of the country, the present lines, future prospects, etc.

The fifth chapter deals with the varied industries of the country, and for those who are not familiar with the vast resources of Brazil, the potential wealth in its great forests, its millions of acres of arable lands, its rich mineral deposits, its pastoral possibilities, and in its water powers for manufacturing purposes, this chapter will prove a revelation.

Practically every one who is at all informed in regard to the great commodities of the world's market knows more or less of Brazil's preeminence in the coffee and rubber industries, both of which are



STUDENTS PICKING COTTON AT AN AGRICULTURAL SCHOOL IN BRAZIL.

Great improvement in the selection of seed and the cultivation of cotton has taken place in Brazil during the last few years. In the above reproduction of a photograph may be seen students of the Piracicaba Agricultural School picking cotton in one of the experimental fields of the institution. The Federal and State governments are active in lending their aid to develop the industry, and several expert cotton growers have been brought over from the United States for the purpose of classifying and standardizing the best cottons for Brazilian planters and to teach them the best methods of cultivation.

comprehensively dealt with in Miss Elliott's book. That the soil and climatic conditions of the country are also well adapted to the production of fine grades of cotton is, however, not so well known, and the following excerpts from the author's account of the growing cotton industry may be enlightening to many:

Cotton is native to Brazil as to other regions of northern South America, Central America, and Mexico, the south of the United States, and the West Indian Islands. Wild or carelessly cultivated Brazilian cottons are, despite neglect, of such excellent quality that George Watt, in *Wild and Cultivated Cotton of the World*, says that when they are properly selected and standardized they will "make Brazil as famous as Egypt in the production of excellent fibers." North American cotton buyers, visiting Brazil early in 1916 were astonished to find cotton of long silky fiber produced here, and made arrangements for shipping quantities of the Seridó variety to the United States; England has for a very long time been a purchaser of the same fine qualities of raw cotton, for mixing, as Egyptian cotton is mixed, with the short fiber product of the United States.

Cotton of one kind and another is grown all over Brazil. There seems to be no region which refuses to mother it. But the best lands, yielding most prolifically and with large areas suitable for cultivation on a great scale, are in the center, on the northeast promontory, and all along the coast to the mouth of the Amazon. Comparatively very small fragments of this belt are under cotton culture, although wild cotton and patches of cultivation of more or less merit are widely scattered; Todd, in his *World's Cotton Crop*, says that Brazil "might easily grow 20,000,000 bales, but her actual crop does not yet reach a half million bales." Now, with the encouraging measures taken by the Brazilian Government as well as the enterprise of individual firms and planters, and the new realization of the opportunity waiting for the farmer with small capital but large technical skill, experience, and good sense, cotton culture should open up great spaces of land suitable for this well-rewarding form of agriculture. Brazilian cottons or their Peruvian and West Indian kin have endowed the world with fine varieties; it remains for their standardization to benefit the land of their origin.

* * * * *

Cultivation of cotton by the Portuguese colonists began very soon after the granting of the capitaniias in 1530. By the year 1570 large crops were being produced in Bahia, chief center of industrial activity, although they could not equal sugar in value. Europe was just beginning to use this material, for with the acquisition of strips of India by the Portuguese there was an entry into European markets of Calicut "calico." Before this dawn of the cotton era Europe went clothed in leather, wool, and, on occasions of great splendor, silk. We may conclude that the clothing of the day was probably as comfortable as, and certainly more substantial than garments of the present period, if not as sanitary; but cleanliness had not yet become a virtue. India taught Europe the use of cotton, and the spindles and looms of the ladies were filled with the vegetable fiber in lieu of wool.

In Pernambuco the culture of cotton became of more importance than sugar; farther south the Paulistas set their Indian slaves to work and were soon producing cotton crops on widely spread plantations. In the seventeenth century cotton was carried into Minas Geraes by the gold-hunting bandeirantes, but it was only cultivated in the most desultory manner and when there was nothing else for the slaves to do.

The author traces the rise of the industry, its discouraging checks by restrictions on the spinning and weaving mills by the Portuguese Government during the latter part of the eighteenth century, its



Courtesy of the Pan American Magazine



TAKING COTTON FROM THE GIN TO THE RAILWAY.

"North American cotton buyers, visiting Brazil early in 1916, were astonished to find cotton of long, silky fiber produced here, and made arrangements for shipping quantities of the Seridó variety to the United States; England has for a long time been a purchaser of the same fine qualities of raw cotton for mixing, as Egyptian cotton is mixed, with the short fiber product of the United States." (From "Brazil: To-day and To-morrow," by L. E. Elliott).



THE CATTLE INDUSTRY OF BRAZIL.

Top: View of the Continental Products Company's plant at São Paulo, showing the "run" by which the cattle enter the slaughterhouse. Center: Part of the pens, showing some of the cattle to be slaughtered. Bottom: The refrigerating section of the plant.

subsequent revival when Dom João, the Prince Regent, removed the restrictions, its inability to compete with the production of the southern part of the United States during the nineteenth century, and lastly its encouragement and renewed vigor since the opening of the present century. In regard to its present status the following quotation sums up the situation from the viewpoint of an expert:

Already, three years ago, the Government had acquired the services of Prof. Edward Green, a cotton expert from the United States, who has been working with the double object of classifying and standardizing the best cottons for plantation in Brazil, and of noting the best regions for such plantations. At the Conferencia Algodoeira (Cotton Conference) held in Rio under the auspices of the Centro da Industria in June, 1916, Prof. Green gave an address dealing with some phases of his labors, and concluded by saying:

"After three years of observation and experiment in Brazil I am convinced that this country, above any other, possesses excellent natural conditions for cotton production, and that the development of this great national resource depends only upon the adoption of a few simple measures:

"1. The selection and standardization of superior types, and the production of great quantities of selected seeds for distribution.

"2. Introduction of simple, animal-drawn cultivators, with practical instruction on their use to be given to large planters of cotton in the interior.

"3. Stimulation by the Government of all activities related to the cotton industry, and suspension for some years of all connected taxes and duties.

"Extensive propaganda in favor of cotton growing is being animated by the far-seeing and incomparable activity of Dr. Miguel Calmon. If this work is continued in all parts of the country where cotton is cultivated there is no doubt of success. The cotton production of Brazil will find itself doubled if not quadrupled in a short time, and this country will take the high place in world markets which is legitimately hers as the greatest exporter of high-class cotton."

Another great industry which is just beginning to develop along lines that will give Brazil an eminent place among the great food-producing nations is the raising of cattle and the establishment of great meat-packing plants. The recent development of this industry in Brazil and its future possibilities are dealt with at some length by Miss Elliott, and the following excerpts will serve to show her grasp of the situation:

The scientific breeders of Brazil—and there is quite a list of them—have lacked a reason for developing their work until recently. In the absence of the packing house there was no demand for beef beyond that of the *matadouros* (town slaughter-houses) and the *xarque* factories. For the *xarque* makers any class of animal would serve; a Hereford of pure blood would bring no more than a *zebu* unless he happened to weigh more.

Xarque making is the ancient meat-drying industry, invented by who knows what hunter in bygone ages; it is the biltong of Africa, the *tasajo* of the Argentine, the jerked beef of the north. Well salted and dried, it is good food enough, and France has not disdained to buy it from Brazil for the use of her troops in 1915-16. The southerly States of Brazil are the great supporters of cattle stocks, and there are the extensive beef-drying factories; Rio Grande slaughters over half a million head of cattle for this purpose every year, the number rising to its maximum in 1912 with 900,000 head, and chiefly ships the *xarque* produced to other Brazilian regions; it is the carne



VIEWS OF THE BAY AND CITY OF RIO
DE JANEIRO.

Upper, left: "The building of the Ministry of Agriculture, Industry, and commerce, the department of the Government which has done so much to stimulate the agricultural and industrial development of the country within the last few years."

Upper, right: The famous Municipal Theater of Rio de Janeiro, one of the finest and costliest structures of its kind in the Western World.

Lower, left: The dreadnaught *Minas Geraes* in the harbor of Rio, the Sugar Loaf in the background.

Lower, right: The "Pao de Acucar," or Sugar Loaf, and the Praia Vermelha viewed from the bay.





VIEWS OF SÃO PAULO, BRAZIL.

São Paulo is the capital of the State of the same name, the State whose boundaries include the greatest coffee-producing area in the world. São Paulo is one of the most modern, progressive, and for its size the wealthiest cities of the Americas. It boasts a population of over 400,000 and is growing with wonderful rapidity. In the above illustrations are shown, at the top, a typical street scene in the city; center, the main building of a coffee fazenda near the outskirts; bottom, the famous Normal School of São Paulo.

secca of that beloved Brazilian dish, the feijoada, eaten all over the Union. The coastal and northern regions of Brazil, comparatively poor cattle regions, are so much dependent upon dried beef imports that the xarque industry will have a ready market in the future as in the past; but since 1914 a rival has risen up seriously threatening the old industry in prestige.

Almost simultaneously two packing houses, both in São Paulo State, began demanding cold storage space in vessels calling at Santos, and refrigerator cars on railways leading to the port. Brazil, to the astonishment of the markets, was offering chilled and frozen beef. At any other time she might have received a welcome less enthusiastic, but her offer came at a time when Europe needed every pound of meat for army use; the Brazilian product was tested by Smithfield standards, found good, and to-day has its place in overseas meat markets. It is a modest place. Beef does not yet take its stand among the "principaes artigos da exportação"—although hides have long stood in the list of nine favored names—but the statistics of complete 1916 may give it more credit.

During 1915 shipments were made in increasing amounts month by month, the total for the year reaching about 8,514 tons, with a value of 6,122 contos. The year 1916 has seen a great advance in Brazilian frozen meat sales abroad, those for the 10 months, January to October, totaling over 29,000 tons, with a value of 24,000 contos, or about £1,200,000.

The first frigorífico of Brazil was built by Paulista enterprise with Paulista capital, in the far northwest of São Paulo where the best pastures extend. The Companhia Frigorífica e Pastoril built its plant near the terminus of the Paulista Railway, at Barretos, and is headed by Dr. Antonio da Silva Prado, an energetic builder-up of his State and a man with many honors and interests. Opened in 1913, the frigorífico first supplied chilled meat to the city of São Paulo; export was not seriously considered until the war in Europe began with its demands upon world food supplies. The first Brazilian shipment of exported meat was sent to England in November, 1914, an experimental ton and a half. During the ensuing year that country took 4,360 tons, Italy over 2,000 tons, and the United States nearly the same quantity.

The figures displayed a steady rise all through 1915, January's 10 tons being quickly outclassed by April's 210 and June's over 570 tons; by November Brazil was shipping 2,000 tons a month. The standard was more than maintained as time went on; the output for the first 6 months of 1916 was over 12,000 tons, half as much again as the entire quantity for 1915, the United States taking about 2,000 tons and the allies the remainder.

This was not the output of Barretos alone. In May, 1915, another packing house started operations at Osasco on the outskirts of S. Paulo city. It is the property of the Continental Products Co., capital and personnel originating in the Sulzberger house at Chicago, and it is independent of, but has friendly relations with, the Farquhar group of interests, which include large railway control and a thriving land and cattle company.

The Osasco plant is, like Barretos, an excellent specimen of its class, operating with fine up-to-date machinery and all modern packing-house devices; on the edge of S. Paulo city, separated from the railway only by a strip of open grassy country, this establishment has the advantage of a short haul for its meat. The São Paulo Railway has to carry the product but 50 miles to Santos port. On the other hand, the Barretos plant's position has the advantage of being in the heart of the best cattle country, and of getting both animals and labor at low prices; the journey from Barretos to S. Paulo, by the Paulista line, takes about 14 hours. Brazilian employees are used at both packing houses, the industry occupying about 1,000 workmen. During 1916 a third frigorífico has been opened, on the docks of Rio de Janeiro, but this chiefly performs cold-storage functions.

* * * * *



VIEWS IN BRAZIL.

Top: The Santa Casa de Misericordia (Hospital) at Santos. Bottom: The port of Rio Grande do Sul, the most southerly of the great seaports of the country.

GENERAL VIEW OF PORTO ALEGRE, BRAZIL.

Porto Alegre, capital of the State of Rio Grande do Sul, is one of the progressive cities of Brazil, having a population of 125,000. It is located at the northern extremity of the Lagoa dos Patos, and is connected by its railway with other roads leading into Brazil, Uruguay, and Argentina. The city has all the modern civic improvements—wide avenues, tree-lined streets and parks, electric light and power, and a good street car system.



The qualifications of Brazil as a future land of fine cattle are three in the main: First, her possession of an existing rebanho of 30,000,000 head; next her natural pastures and good climate which permit stock to remain in the open during the winter; third, tremendous expanses of suitable lands at moderate prices. Argentina has no natural pastures; she sows alfalfa, needs 5 acres of it to fatten 1 animal for 6 months, and is thus at an expense of \$7.50 for this purpose against Brazil's outlay of rather less than \$3.50, counting the value of the 5 acres of alfalfa land at \$300, the cost of 12 acres of Brazilian capim gordura at \$133 and interest on the two investments at 5 per cent. In regard to available territory there is no comparison; Brazil's one State of Matto Grosso could swallow the whole cattle-raising country of the Argentine, without taking into consideration Goyaz, Minas Geraes, S. Paulo, Parana or Rio Grande do Sul.

Space and climate, however, are not all that goes to make a cattle country fattening fine stock, and it need scarcely be said that much must be done before the cattle lands of Brazil can seriously compete with those of the Argentine; the time is not yet ripe for the wild pastures of Goyaz and Matto Grosso to fatten cattle in the same proportion as Rio Grande State. This State, with an area of 237,000 square kilometers, feeds about 9,000,000 head of cattle, a remarkably good showing in comparison with the premier cattle Province of Argentina, Buenos Aires, which, with a superficial area of not much more than 305,000 square kilometers, feeds 7,500,000 head.

Other industries dealt with are the preparation and exporting of herva matte; the growing of sugar cane and the manufacture of its product; tobacco; the cereals; fibers; cacao; maize, etc. The mining industry is also touched upon, and the chapter ends with a comprehensive survey of the manufacturing industries throughout the country.

Chapter VI deals with the financial condition of the Government; investments of capital of foreign nations; the Federal debts; banking facilities in the large cities, etc.

Chapter VII is a general account of what the world owes to Brazil in the way of horticultural and medicinal plants, flowers, shrubs, etc.

The last chapter gives a general outline of Brazil's foreign commerce, with various tables of statistics dealing with the country's exports and imports.

The book covers a wide scope and reveals an insight into the present conditions of the great Republic which only close observation and personal acquaintance with the people and their activities could make possible. In many respects it will be a valuable source of information in regard to the vast country with which it deals, even for those who have visited Brazil and are more or less familiar with its present condition. For those who are seeking "first aid" along this line it will prove invaluable.

C. E. A.



PROMINENT IN PAN AMERICAN AFFAIRS

GENERAL JOSÉ MANUEL PANDO, formerly President of Bolivia, died at La Paz, on June 21, 1917. In his demise there passed away a well-known and historic character of South America. For many years the general stood out as one of the leading figures in the public life of Bolivia. His brilliant achievements as a military leader and his statesmanlike and constructive administration as President of the country from 1899 to 1904 had gained for him a notable reputation and the deep esteem of his countrymen. In the field of science, as well as in official and military circles, the general had rendered a splendid service. His explorations resulted in the determination of the course of many of the rivers in the great network of Bolivian waterways, and in the discovery of the mouth of the Tambopata where it empties into the Madre de Dios River. To him also was due the credit of having named the River Heath in recognition of the explorations made by Dr. Edwin R. Heath.

As President, Gen. Pando built the first railroad constructed with public funds and initiated the movement for the construction of a system of railways, a plan which is being enthusiastically followed to this day by the present administration. During his incumbency a number of treaties with neighboring countries were negotiated amicably adjusting border questions and boundary limits.

Sr. Pando was born in La Paz December 25, 1848. He was a student at the medical department of the university at the capital when his youthful patriotism became so fired by the stirring internal events that he left the clinic and laboratory to aid in the upbuilding of the new government. As a military leader he covered himself with glory, and upon his return to civil life, he was elected senator from the Department of La Paz. From then on he had been active in official life, and traveled a great deal in Europe and in South America. He served at the head of the Bolivian commission for fixing the boundary limit with Brazil with residence at the Brazilian capital. During that time he visited in Argentina and Peru, in which countries he acquired a reputation as a diplomat and military officer. At one time the Government of Bolivia indicated its desire to name him minister to Brazil, but Sr. Pando expressed his preference to serve on the boundary commission.

Sr. Pando was a member of various scientific societies, held the rank of general in the Bolivian Army, and enjoyed the distinction of also holding a commission in the Peruvian Army by vote of the Peruvian Congress in 1913.

MANUEL SALINAS, statesman, diplomat, and distinguished public servant of Chile died at Santiago, May 15, 1917. In a public career covering a period of nearly half a century, during which time he served as national deputy, diplomat, cabinet official, and senator, he displayed remarkable qualities of leadership and statesmanship. In his official and private life, he stood out conspicuously as a man of high intelligence, unimpeachable integrity, and sterling loyalty. Salinas entered public life in 1882, at the age of 27, and during the next 45 years his name became honorably linked with the political life of the country as one of its illustrious leaders.

Salinas was born in Santiago in 1855, and in 1882 became secretary of the intendencia of Talca. In 1885 he was made intendente of the Province of Chiloe, and two years later he left to assume a similar position in the Province of Atacama. He withdrew from this post a few years later to accept the office of fiscal delegate of the nitrate fields, a responsible charge offered him by President Balmaceda. After a year in the discharge of that office, he again assumed the position of intendente, this time in the Province of Tarapaca.

Following some internal changes in the Government, Salinas was sent to France by President Balmaceda as confidential agent. Upon his return he was chosen national deputy for the Province of Tarapaca and he held that seat in the chamber for three consecutive terms. While serving in that body, he was honored with appointment as envoy extraordinary and minister plenipotentiary to Bolivia.

Many times in the course of his public service, Salinas was called upon to serve in the cabinet of various presidents. He was minister of the treasury in 1899, 1903, and 1910. In 1900 he held the office of minister of foreign affairs, worship and colonization; in 1906 he served as minister of the interior. In 1914 he was again summoned to the cabinet as minister of foreign affairs. Since 1912, Salinas occupied a seat in the Chilean Senate from the Province of Cautin.

In the long years of his service Salinas was frequently confronted with difficult and trying situations but his ability, serene and deliberate courage, and strength of purpose and ideals carried him through with commendable success. He was regarded by many as the man of the hour in times of national stress.

Lovers of music the world over have learned with sincere regret of the unexpected death of the genial and celebrated pianist, **TERESA CARREÑO**. Born in Caracas, Venezuela, the charming artist when



JOSÉ MANUEL PANDO.



MANUEL SALINAS.



Courtesy of The South American.

TERESA CARREÑO.



JOSÉ ENRIQUE RODÓ.

but a child was brought to the United States, where she began the triumphal musical career that gave her fame in both Europe and America.

Señora Carreño, who belonged to one of the prominent families of Caracas, was born in that city on the 22d of December, 1853. She revealed her predilection for the piano and her future aspirations in the field of musical art in her early infancy. Her father, who had been minister of finance for Venezuela, left his country when Teresa was only 6 years old, and established himself and family in New York. It was there that the little girl began her studies under the renowned pianist, Luis M. Gottschalk, and at the early age of 9 years made her first public appearance in concert given at the old Academy of Music. This appearance, which was followed by performances in Boston and other leading cities of the United States, constituted a notable triumph for the young artist and brilliantly presaged the beginning of a remarkable career. One of the most pleasing tributes paid her at this early stage of her development was an invitation to play before President Abraham Lincoln at the White House in Washington.

Early in 1866 the young artist went to Paris, where she continued her studies under such noted masters as Mathias and Rubenstein, and for the first time revealed to the European public, of which she subsequently became so great a favorite, her extraordinary talents in a concert with Vivier. About this time she also played before such great artists as Liszt, Saint Saens, Plante, and Jael, all of whom were astounded at the precocious talents of the youthful artist.

Encouraged by the applause of these eminent masters and by her successes in Paris, she undertook an artistic tour through France, Spain, Holland, and England, in all of which countries she was given most enthusiastic receptions.

Her artistic endowments were such that simultaneously with her piano studies she also cultivated her fine voice and successfully sang some of the most difficult rôles in various operas then popular in the great theaters of England and the United States. In addition to all this, moreover, she organized an opera company, whose orchestra she herself directed, which she took with her to the country of her birth on the occasion of the first centenary of the birth of Bolivar.

Her grand passion, however, was the piano, and to it she consecrated her life. Owing to her great natural talent and to her devoted and unremitting application, she came to dominate this marvelous instrument with a mastery and strength of expression and feeling almost unprecedented. The greatest European critics ranked her as a pianist second only to Paderewsky, and as first among all women devoted to that instrument. It may be said of her that she delighted with her technique, as well as with her wonderful interpretations of

the great composers, the most cultured audiences of both hemispheres, and she became justly known as the "Valkyrie of the Piano."

It has not been very long ago since in Berlin, where she had established her permanent residence, she received the homage of the entire German musical world in a splendid banquet which was given in honor of her "golden wedding" to the piano.

Señora Carreño died in New York, the city which witnessed her first triumphs, on June 12, 1917. Among the great artists who attended the funeral rites was her only rival, and at the same time one of her sincerest admirers, Jan Paderewsky.

JOSÉ ENRIQUE RODÓ, essayist, author, and publicist, one of the foremost writers not only of his native country, Uruguay, but of the entire Latin American world, died at Palermo, Italy, May 2, 1917. The news of his death reached Montevideo on the 3d, and seldom has such a tribute of general sorrow been paid to a citizen in private life by the public press and by the various social, political, and educational organizations of the Uruguayan capital. Resolutions of sorrow and respect were passed by the various councils, boards of directors, and other governing bodies of these societies; the public libraries were closed; many of the most prominent commercial houses of the city closed their doors; and every possible mark of honor and respect offered the memory of the distinguished litterateur and patriot who had passed away so far from his native land.

Rodó was in the very prime of his life, about 46 years of age, when death so unexpectedly claimed him. His literary career began at an early age, for even at 21, when he graduated from the university, he had surprised and delighted the faculty and evoked the admiration of his friends by his dissertations on literary and historical subjects. His active literary career really began with the publication of the National Review of Literature and Social Science, of which he was one of the founders some 20 years ago, and in whose columns Rodó first evinced his wonderful command of the Spanish language, clear, forceful style of expression, and keenness of intellect for which he subsequently became so noted. Although in his early years he wrote most excellent verse, his greatest talent was shown in his virile and sonorous prose, especially in the form of those remarkable essays which would alone have made him famous in Spanish literature. In this particular field his most notable works were his essays on Bolívar, Montalvo, and Rubén Darío. Among his longer and more ambitious works may be mentioned such books as *Ariel*, *Motivos de Proteo*, and *Del Mirador de Prospero*. Especially notable is the first of these, dedicated to youth and filled with the noblest sentiment and purest ideals.



Photograph by Harris-Ewing.

CARLOS G. DAIREAUX



Photograph by Harris-Ewing.

JULIO DITTBORN.



Photograph by Harris-Ewing.

ALFREDO EWING.



Photograph by Harris-Ewing.

EDMUND WITTENMEYER.

In addition to his literary labors, Rodó had held various high offices and had been closely identified with the Colorado party in politics. He had been secretary of the National Library of Uruguay, professor of literature at the University of Montevideo, member of various learned bodies, and at various times was elected as a deputy in the National Congress. In the last-named capacity he established a reputation as an orator second only to his fame as a writer, and even his political adversaries all conceded his great abilities and pure patriotism. At the time of his death he had just begun his work as a representative of *Caras y Caretas*, the well-known weekly review of Buenos Aires, in the European field, and his untimely death deprived the world of what doubtless would have been the greatest of all of his contributions to the literary and artistic history of his day.

To the Argentine mission in Washington there are assigned a military and naval attaché. Col. EDUARDO RAYBAUD, whose portrait and biographical sketch appeared in a former issue of the BULLETIN, is the military attaché, and Capt. CARLOS G. DAIREAUX is the naval attaché. The captain is one of the eminent naval officers of his country and was assigned to the embassy at Washington in May, 1916. He remained at this post a little less than a year, but during this period he acquired a wide circle of friends in naval and social circles. The announcement of his return to Argentina brought forth numerous expressions of bon voyage and best wishes as well as of regret at his departure. At the time of his assignment to the post at Washington, Capt. Daireaux was attached to the office of the Navy Department at Buenos Aires as Chief of the Bureau of Appointment.

Assigned to the embassy of Chile at Washington are Commander JULIO DITTBORN, naval attaché, and Maj. ALFREDO EWING, military attaché. Commander Dittborn was born in Valparaiso, Chile, March 20, 1880, and entered the naval service at the age of 14. During the early years of his naval career he made several voyages to Europe, a trip to Argentina, and another to Australia. He was also attached to the maneuvering squadrons (Escuadras de Evoluciones) along the coast of Chile, and served on the hydrographic commission which charted the Chile and Guaytecan channels.

In 1906 Dittborn was named naval attaché to England and during the years 1907-8 he was detailed to observation duty in the navy of Austria-Hungary stationed in the Adriatic. The following year he was raised to the rank of captain of Corvette (de Corbeta) and was appointed second commander and subdirector of the school of artillery on board the battleship *Almirante Cochrane*. During the next four years he served at the following posts, viz., second com-

mander of the cruiser *Presidente Errazuriz*, and of the battleships *Capitan Prat* and *O'Higgins*; commander of the torpedo-boat destroyer *Almirante Lynch*, and afterward of the destroyers *Capital Orella* and *Merino Jarpa*. In 1914 he was assigned as naval attaché to the United States and in 1916 was promoted to the rank of captain of frigate. Commander Dittborn is a possessor of the silver medal for 20 years' service in the Chilean Navy, and is one of those who received the medal which the Argentine Government awarded to the 36 chiefs of the Chilean Navy on the anniversary of Chile's centenary of independence.

Maj. ALFREDO EWING, the military attaché, is a veteran in the ranks of the Chilean Army and has nearly a quarter of a century of service to his credit. In 1906 he was graduated as a commissioned officer on the general staff from the Higher War College of Chile. With this same rank he was assigned to the German Army to study and observe, and spent two years completing his military education and training. On his return from Europe he was made aide to the chief of the general staff, which post he held for four years; he was then appointed secretary of the army bureau of inspection. For many years he was also professor of tactics in the academy of war and the military school. In 1913 he was detailed as military aid to Col. Roosevelt during the latter's visit to that country. At the time of his assignment as military attaché to the embassy at Washington the major was acting director of the military school.

Serving as military attaché of the United States Legation at Habana, Cuba, is Lieut. Col. EDMUND WITTENMEYER. The lieutenant colonel was born in Bulford, R. I., April 25, 1862, and was appointed a military cadet in 1883. Graduating from the Military Academy at West Point in 1887, he was commissioned second lieutenant of the Ninth Infantry. In 1894 he was promoted to first lieutenant of the Fifteenth Infantry, and in 1899 he was raised to the rank of captain of the Tenth Infantry. Later that year he was returned to the Fifteenth Infantry. From 1901 to 1905 he was detailed as paymaster and at the conclusion of this assignment he was attached to the Fifth Infantry. In the interim the captain had graduated from the Infantry and Cavalry School. During the years 1910 and 1911 he served on the general staff, and in February, 1911, he was elevated to the rank of major of the Twenty-seventh Infantry. In 1914 he was assigned as military attaché at Habana, Cuba, and in 1916 during this foreign service he was promoted to the grade of lieutenant colonel.



PAN AMERICA IN THE MAGAZINES

The Pearl Island of the Pacific, by Cyrus French Wicker, former Secretary of Legation of the United States in Panama, is an interesting sketch in the Pan American Magazine (New York). While the article sets out in more or less detail the purpose of the author's visit to the islands, this feature need not be stressed. The chief interest to those not familiar with the unique industry of the inhabitants, lies in the description of the islands, the pearl fishing, and the side lights thrown on the subject. The following excerpts embody some of these entertaining accounts:

They are not located in the far-off south seas, these legendary Pearl Islands of the Pacific, out of reach of all but poets and dauntless adventurers, but at our very doors, only a few hours' sail from the Panama Canal. One has only to go 40 miles south, and a little east, from the fortifications of Taboga, the mother-of-pearl covered towers of Panama Cathedral, and the dances at the Tivoli Hotel to be lost among them. Their shadows, for those who can see, lie like little gray clouds on the horizon as one looks south from the sea wall at Las Bovedas on a clear evening; and yet they are as far away as the Fortunate Isles themselves from the gay tourist life of the Canal Zone.

* * * * *

But leave Panama for a day and come with me south as far as the horizon line, and visit there the real Pearl Islands Archipelago as known to Spaniards and pirates ever since Balboa's day, haunted with legends of buried treasure, beautiful with shores of waving palms, great curving beaches of white sand and deep blue water, unlike the muddy shallows of the Bay of Panama, where you will see carved paddles and dugout canoes, and naked Indians diving for pearls and gambling with Chinese merchants on the chances of the catch; and then believe yourself in America, if you can.

There are about 40 islands in the archipelago, with a hundred or more islets and rocks, all lying between 40 and 60 miles from Panama and the Canal Zone, in the open Pacific, but sheltered by a great southward curve of the mainland. The largest of them, called by the early Spaniards Isla del Rey, but now known as San Miguel, is about 12 miles long by 6 wide, and boasts of the principal thatched roofed town. The next in size—Saboga, Pedro Gonzales, San Jose, Contadora (i. e., "Treasurer," so-called from the fact that the pirates used to divide their booty on its mile-long curving beach), Pacheca, Bayoneta—are from 2 to 3 miles long by half as wide, and, where fresh water is found, are inhabited by perhaps the happiest people in the world—a people who live on coconuts and whose sole work and occupation, when they choose to follow it, is fishing for pearls.

* * * * *

We left Panama on a Saturday morning, on the twin screw gasoline launch, *Chinina*, which I had hired for the trip, there being no regular service to the islands except by sailing canoes. She was a seaworthy craft, with a flat upper deck, covered by an awning, where we lived and slept, needing no other protection in the dry season. Our crew of three blacks slept forward, or ashore; for this was no deep-sea voyage far out of sight of land, but more like a cruise among the Thousand Islands, transferred



SCENES AMONG THE PEARL ISLANDS OF THE PACIFIC.

Upper: A native village on one of the Pearl Islands. "They are not located in the far-off south seas, these legendary Pearl islands of the Pacific, out of reach of all but poets and dauntless adventurers, but at our very doors, only a few hours sail from the Panama Canal." Lower: A fishing fleet leaving headquarters for the pearl oyster beds near Suboga Island

to the Tropics and transfigured by a softer climate and more generous days and nights; especially the latter, with their stars. Never shall I forget sleeping on deck, a little offshore to avoid the mosquitoes, and waking just before dawn to see above waving palm trees—a pageant of celestial giants; to the south the Southern Cross and the two even more brilliant pointers; Orion with his flashing belt of jewels; the perfectly outlined triangle of Betelgeux, Procyon, and Sirius; and below them those flaming southern suns, Canopus, Fomalhaut, and Achernar. And what joy it was not entirely to lose my northern friends in this new company, but to turn and see the whole heavens ablaze from pole to pole.

It took us just five hours from Panama City to reach Saboga anchorage, the nearest point of the archipelago to the Panama Canal. This anchorage, or lagoon, is protected by five islands and a number of reefs, and affords a deep-water harbor 2 miles long by a mile wide, approached by three narrow channels from the north, east, and south.

Saboga Island, which guards the west, is inhabited and there is a little village of 89 or more reed houses, sheltering some 300 souls, on the inner side of the harbor above a beautiful beach. This is the headquarters of the pearl fishers, and we saw their boats drawn up on the sand as we approached. There was also a commotion in the village, conch shells blowing and women screaming; for a gasoline launch, unless it is that of the infrequent Government tax collector, is an almost unknown visitant.

We did not land, but sent word ashore that we desired to anchor for the night and would call officially on the alcalde in the morning, and hoped that dignitary would honor us by taking breakfast (luncheon) on board our flagship the following noon. The answer came back, together with a present of eggs, coconuts, guavas, pineapples, and I do not remember what else, that the island and its alcalde were ours. We had hoped for a gift of a handful of pearls, but I found we were still too near civilization and the Paris buyers for the natives to hand around those commodities as freely as they did coconuts.

* * * * *

We found good springs the next day when we landed to visit the alcalde. There are four of them and they give an abundant water supply the year round; the other islands surrounding the lagoon are all uninhabited on account of their having no water.

The fishing fleet had gone out before dawn and was now back again, each diver with six pearl oysters as his day's catch. They usually dive six times, bringing up one oyster at each trip; whether because more diving might be unhealthful or mere work, I don't know. Anyway, when each diver has six oysters back the fleet paddles to the village and then begins that curious daily gamble and sale of the catch to the local Chinese merchant, one of whose race is found in every Panamanian village.

This merchant sits in front of his reed store and gambles with the fishermen on the chance of there being pearls in the unopened oysters brought before him. He usually pays 50 cents a dozen, or 25 cents on the morning's catch, for the right to any pearls that may be found in the oysters. It is a pure gamble, for the great majority, of course, have none at all; but the native is in this way sure of his 25 cents, which is paid over before the oysters are opened. This operation the Chinaman performs himself, breaking the back of the oyster with his knife to do it, as the wily oyster clamps his shell tight as soon as he is touched by a human hand, and never gives up. Then he runs his thumb around the oyster, pockets the pearls, if any, and turns over the shells and the oyster to the diver.

So far the transaction has been just a gamble: 50 cents a dozen on the chance of there being pearls. Now, however, business comes in. The Chinaman buys the shells, which are as large as small dinner plates and flat, at the fixed rate of 7 cents a pound, to be sold in Panama and shipped to Paris, there to be made into mother-of-pearl novelties. The native eats the oyster, and everybody is satisfied; the native

with his 25 cents, his 7 cents a pound for the shells, and his dinner; the Chinaman with his pearls and his shells.

About once a month the Chinaman leaves for Panama to dispose of his stock, and at the end of about four years that Chinaman disappears entirely, gone back to China a wealthy man, and his place is taken by a new Chinaman bearing the same name and often the same papers as the departed, for which, doubtless, he has paid a round sum, only to sell them in turn to his successor. I have always wondered why there was never more than one Chinaman in each village, and consequently no competition. Perhaps their business Tong take care of all that, for in such matters the Chinese are one of the most highly organized peoples in the world.

* * * * *

In the four days we spent at Saboga we cruised often about the island inclosing the lagoon, landing oftenest on Contadora, where there is a great curving beach of white coral sand fully 300 yards wide and over a mile long, in the form of a great amphitheater. Here, and with good reason, it is said that the pirates used to divide their treasure; and no more wonderful or appropriate surroundings could have been devised than that uninhabited island with its fringe of palm trees, the broad and immense amphitheater of sand, the blue and deserted sea and sky and the foreground of heavy surf. On a northern point of the island is an Indian face, carved deep into the rock and oriented on the North Star, evidently of ancient origin.

We then sailed southward among the islands, some showing a few reed huts, but for the most part uninhabited and with nowhere any sign of a harbor. It was our opinion that, except for the island of Pedro Gonzales, where a harbor could be made by building a breakwater three-quarters of a mile long, and the lagoon above described, no part of the entire archipelago could be effectively used as a naval base or even as a landing place for any considerable number of troops on account of the absence of food supplies and fresh water. The British, even in 1847, were evidently right in charting those two places with greatest care and leaving the rest blank.

After successive scenes of white beaches and surf and blue waters and palm-covered islets, we came to San Miguel, the principal town of the archipelago, as the island is the largest of the group. Here we found a famous church, the towers of which are covered with mother-of-pearl shells as closely as they can be placed together, flashing and glowing in the sunlight and seen far out at sea. It is from this church that the towers of the cathedral at Panama were copied, and it is due to Lady Mallet, the wife of the British minister at Panama, that in the recent restoration of the cathedral the towers were preserved with their original decoration. The directions were that they were to be replaced with lead and galvanized iron, the price of mother-of-pearl shell having gone up since the days of the early fathers, but through her personal appeal to the pearl merchants of Panama, chief of whom was Mr. Piza, of that city, enough shells were contributed to restore the towers to their former unique splendor.

On the façade of the church at San Miguel, where shells were lacking, large china dinner plates were inserted to fill up the gaps. Here, too, we found a Chinaman in supreme charge of the pearl industry: but as he was one well known to me (I was acting Chinese consul general at Panama some months before) we found his ruling somewhat relaxed. I "gambled" on five dozen unopened pearl oysters and found one pearl, worth perhaps \$8, in one oyster and half a handful of little seed pearls in another. No wonder the Chinese grow rich. But the fisheries are not what they were in the old days when large crates of unassorted pearls were shipped annually to Spain from these very islands, whence they derived their name, "Islas de Perlas." Scarcely half a dozen now in a year average over the \$1,000 mark, but there is always the chance of finding the oyster where the fortune lies waiting.

The natives of San Miguel live a most primitive life, scarcely ever making the voyage to Panama. They live on coconuts, papaya, mangoes, fish, and eggs, with small quantities of imported beans and maize. There are no horses and only one



THE PEARL FISHING INDUSTRY ON THE PEARL ISLANDS.

Top: The pearl fisher, incased in his diving suit, is seen at the stern of the boat about to descend to the oyster beds. Center: Modern methods of gathering pearl oysters include scientifically constructed diving suits as part of the diver's outfit. Bottom: Opening the pearl oysters to search for the hoped-for treasure.

cow on the island; but no lack of pigs, which are fattened on the meat of the coconuts, of which there is an abundance. A little grain is grown and is threshed and winnowed by hand in large wooden mortars.

Farther south still we came on tiny villages where no motor boat had ever been seen. Here the natives, Indians, came out to meet us in canoes made from solid trees burned with fire and dug out with knives. Their paddles were curiously carved about the handles, such as I have not seen anywhere in Central America, and two were of some light and tough wood unknown to me. The native from whom I bought them said that they were carved from a piece of driftwood which had attracted his attention by its lightness. Another trophy was a dry gourd, as big as a bushel basket, with a small opening in the top closed with a carved cover. This is the pearl diver's water jug. He takes it with him, filled with water, in his canoe, and when he has drunk he empties it out and stores his clothes in it while diving, so that they will not get splashed—a double use that would hardly be imagined in the North. We also saw, near Cañas Island, a two-masted pearl schooner that ran from us; a poacher, as it was then the closed season for pearl schooners equipped with diving apparatus in Panaman waters. We did not pursue, but kept on, and rounded Cocos Point, the southernmost part of the island, where there is an excellent place for a wireless station, but no safe harbor.

Without other than a general view of San Jose, the second largest island, which is without water, harbor, or inhabitants, we turned north, and after a day at Pedro Gonzales, where a harbor might be made, returned to Saboga, and thence to Panama.

The Andean Region of Venezuela, in the June number of the International Edition of Dun's Review, is a condensed account of the towns, natural resources, and topographical features of the extreme western portion of the Republic. The following reproduction gives the important phases of that section's development and its possibilities:

The Andean region of Venezuela, which lies beyond Lake Maracaibo, and of which the city of Maracaibo is the port of entry, possesses much that is of interest to the visitor. Beautiful as is all of this South American country, with its diversity of climate and scenery, it may be questioned if this region is equaled by any other part of the Republic in scenic attractions. Commercially, it is also quite important, while it abounds in natural resources not common to the country as a whole.

The Gulf of Maracaibo, which on the old Spanish maps was the Gulf of Venetia, may be regarded as the entrance gate to this Andean region. Its Indian name was Coquibacoa, but the little native houses built on piles over the water along its shores recalled to Alonzo de Ojeda, its discoverer, the famous city on the Adriatic. Later on, with the Spaniards' fondness for diminutives, the name was corrupted into Venezuela, which eventually became the name of the entire country. The superficial area of this gulf is about 16,000 square kilometers, or 1,000 more than the Gulf of Paria. Numerous small villages and fishing places are located along its sandy shores, some sheltered in small bays, but most of them exposed to the windswept waters of the gulf. Fishes of all kinds abound and great flocks of pelicans and other aquatic birds make their nests upon the white sandy dunes that are a striking feature of the coast. At the extremity of the gulf, where it narrows suddenly into the Bay of Maracaibo, lie the islands of Zapara and San Carlos, with the old Spanish fort and prison, between these two being the shallow bar over which the steamer sounds her way into the channel that curves up to the city of Maracaibo, the second most important seaport of Venezuela.

Named after the Cacique Mara, it occupies a commercially strategic position of junction between the gulf and the great Lake of Maracaibo. The country behind



VIEW OF CENTRAL SECTION OF MARACAIBO, VENEZUELA.

'Named after the Cacique Mara, the city occupies a commercially strategic position of junction between the gulf and the great lake of Maracaibo. The country behind it is almost level, rising gradually to the foothills of the distant Andes, beyond the Ilo de Palmar and facing it across the narrow channel that connects the lake with the gulf are the low shores of the district of Miranda and the little town of Altugracia directly opposite.'

It is almost level, rising gradually to the foothills of the distant Andes, beyond the Rio de Palmar, and facing it across the narrow channel that connects the lake with the gulf, are the low shores of the district of Miranda and the little town of Altavista, directly opposite. Its waterfront, upon which most of the commercial houses face, is crowded with hundreds of small sailing craft and canoes engaged in the lake traffic, while a single pier, built on wooden piles, affords accommodation for ocean-going vessels, the whole presenting a bustling appearance consistent with the relation of the city to the great Andean hinterland across the lake. The city is fairly well constructed, the houses of one story gaily painted, with barred windows and large doorways, through which glimpses may be had of patios abloom with tropical plants. A central plaza, graced by an equestrian statue of Bolívar, and around which are the administrative buildings and the cathedral, furnishes the usual place of evening promenade. The commerce, both import and export, is mainly in the hands of a few large houses, chiefly German and English. These concerns not only supply local trade, but a much larger part of their business consists of wholesale traffic with the interior States of Tachira, Trujillo, Mérida, and Zulia, as well as with the adjoining Colombian Department of Santander.

The Lake of Maracaibo, over which all this commerce is carried, enjoys the reputation of being the largest of the South American lakes. Its perimeter exceeds 1,000 kilometers, while its superficial area is 21,616 square kilometers. Fed by the eternal snows of the Andes, as well as by the torrential rains of the tropical lowlands, a considerable number of rivers empty themselves into the lake, the most important of which are the Catatumbo, rising in the Colombian highlands, the Zuila, which is a branch of the Catatumbo, the Escalante, the Santa Ana, the Apon, and the Motatán.

To cross the lake, one may take either sailing craft or a paddle-wheel steamboat at Maracaibo, the latter making regular trips to the principal ports around the lake. Of these, La Ceiba, in the State of Trujillo, is the most worth visiting; indeed it is the chief outlet for much of the Andean region. A railroad from it runs inland across the fertile llanos and circles the foothills of the sierras to the town of Motatán, thereby opening up one of the richest coffee districts of Venezuela. The entire State is mountainous, with spurs of the main Andean range running across it, and between the sierras are fertile valleys especially suited to coffee culture, while towering above them are the lofty, barren peaks called *paramos*, of which the Niquitao (4,000 meters), the Tuname (3,770 meters), and the Volcán (3,511 meters) are the highest. Down all these mount in slopes and across the rich savannahs, innumerable streams contribute their waters to the Río Motatán, the largest of the Trujillo rivers. On one of these streams, the San Jacinto, lies Trujillo, the capital of the State, at an altitude of 800 meters. Founded about 1811 by Diego García de Peredes, it was here that the famous decree of war to the death (*Guerra a muerte*) was signed by Bolívar on June 13, 1813. It is to-day a thriving community of about 3,000 people, interested principally in the coffee and tobacco industries.

Mountainous as is the State of Trujillo, the true Alpine region of Venezuela is the neighboring State of Mérida. This State may well be termed the Switzerland of northern South America, except that it is a Switzerland with three distinct climatic zones, the *Tierra Caliente* of the lake coast, the *Tierra Templada* of the foothills and the mesas, and the *Tierra Fria* of the high Andean ranges. Between them are the extremes of torrid heat and perpetual cold, or rioting tropical vegetation and, upon the loftiest summits, eternal snows. This diversity of climate, moreover, is found only 8° from the Equator, Venezuela lying between 1 and 12° north.

Here the Sierra Nevada, stretching from southwest to northeast, raises its highest peak in La Columna 5,000 meters above sea level, its other summits being Humboldt, La Concha, Bempland, El Toro, El Líon, and the Paramo de concejas. Among these mountains, as also in the many branching cordilleras that stretch down toward the lake, are delightful, fertile valleys, such as the Mercurion, the Mururuba, and the



VIEWS OF MARACAIBO, VENEZUELA.

Upper: A street scene during a Venezuelan holiday. Lower: Shipping in the harbor of Maracaibo. "Its water front, upon which most of the commercial houses face, is crowded with hundreds of small sailing craft and canoes engaged in the lake traffic, while a single pier, built on wooden piles, affords accommodation for ocean-going vessels, the whole presenting a bustling appearance consistent with the relation of the city to the great Andean hinterland across the lake."

Mesa of Merida. Here is produced much of the agricultural wealth of the State, including an excellent wheat, which is ground in mills at Murcuruba, a small town, from which a public road, rising to an altitude of 4,500 meters, leads down to Lake Maracaibo. As in all this region, there are numerous rivers in Merida, the chief being the Uribante, the Escalante, and the Santo Domingo, which is a branch of the mighty Orinoco. The Rio Milla, which has its source in the Nevadas, abounds with waterfalls, some of which are indescribably beautiful.

Merida, the State capital, situated on a small plain 1,600 meters above the sea, is one of the most picturesque towns in Venezuela, encircled as it is by high mountains and overlooked toward the northwest by the snow-capped peaks of the Andes. It was founded in 1558, under the name of Santiago de los Caballeros; is to-day a bishopric, a university seat, and has a population of over 5,000. To reach this city from its lake port, Palmarito, involves five days on mule back by way of San Pedro, Cacuta, La Pueblita, and Culata. A longer and more tedious journey, starting also from Palmarito, is through the higher altitudes of the Cordilleras and up the valley of the Mucujón, a trip unrivaled, it is said, for scenic beauty in any part of near-by South America. It is planned, however, to extend the railroad across the mountains from Trujillo to Merida, thereby bringing the latter city within easier reach of the lake through the port of La Ceiba, already referred to.

The adjoining State of Tachira, bordering on Colombia, is another of the Lake States that has the Andes for its backbone. Here the highest ranges are the Paramos of Zumbador, Balalón, and Portachuelo, all of which exceed 3,000 meters in altitude. The Rio Grita, navigable for a distance of some 80 kilometers and a tributary of the Rio Zuila, is the principal river, although there are several other streams that contribute to the agricultural value of this region as well as to its great scenic beauty. San Cristobal, on the Rio Torbes, at an elevation of 800 meters, is the capital of the State and a place of some commercial importance owing to its proximity to the Cucuta district of Colombia. A good high road from it winds over the mountains to the town of Cucuta, while there are several other roads which start at the terminus of the railroad at Uraca and traverse the mountain passes from that point to Cuenta, La Vega, and El Rosario. The State is served by a railroad which runs from Encontrados (in the State of Zuila) up the watershed of the Rio Zuila to La Uraca, where transfer is made to motor trucks and mule backs for the towns in the mountains, including those of the Colombian frontier. Táchira possesses great agricultural wealth, as well as petroleum and coal deposits, the extent of which is not yet estimated.

Zuila, the most important if not the most picturesque of the lake districts and of this Andean region, is the State that has Maracaibo for its capital. Mountainous in the interior, where it shares with Colombia the same ranges of the Cordilleras and toward the south where the Merida sierras, already alluded to, overlook its lake littoral, this State is distinguished for the number and size of its rivers. The principal ones are the Catatumbo, which rises in the Colombian Andes and of which the Zuila and the Tarra are very large tributaries, the Santa Ana, the Chama, the Escalante, and the Socuy. As most of these rivers are navigable to a considerable distance inland, they furnish the means of transportation to and from the interior. Many thriving little towns are located along their banks, such as Encontrados, on the Catatumbo, and San Carlos, some 20 miles from the lake on the Rio Escalante. Extensive "fincas," principally of coffee, abound along the watersheds and in the valleys of all these streams, the State of Zuila being wonderfully rich, not only in agricultural resources, but in mineral deposits, asphalt, petroleum, and salt, while much of its surface is covered with large forests of timber and dyewood trees. These many sources of wealth have as yet hardly been touched. A considerable area of the State is practically unexplored, and the wild llanos and the foothills of the far interior are still frequented by nomadic Indians, among whom the Molilones and the Cocinas may be mentioned.



VIEWS OF MARACAIBO, VENEZUELA.

Upper: Street scene along the water front, where the large commercial houses are to be found. These concerns not only supply local trade, but a much larger part of their business consists of wholesale traffic with the interior States of Tachira, Trujillo, Mérida, and Zulia, as well as with the adjoining Colombian Department of Santander." Lower: "A central plaza, graced by an equestrian statue of Bolívar, and around which are the administrative buildings and the cathedral, furnishes the usual place of evening promenade."

Cerro de Pasco, the Anaconda of Peru, by Carpel L. Breger, in the Financial World (New York), is a striking account of this tremendous mining enterprise which has been developed in Peru by North American capital. The history of this undertaking demonstrates the tremendous possibilities that await capital and enterprise in the South American field, and the article is herewith reproduced in full:

The most spectacular investment in a mining enterprise in the history of the world (prior to the new Chile undertaking) was the placing of over \$23,000,000 of Hearst-Haggan-Mills cash in the opening of what are commonly known as the Cerro de Pasco mines, "at the top of the world," 14,000 feet above sea level, on the east side of the Andes Mountains, in Peru. The following brief summary of the enterprise will be interesting:

When the Haggan-Hearst group sold out their interest in Anaconda in 1895 to the H. H. Rogers-William Rockefeller group, leading to the formation of the Amalgamated Copper Co. by the Standard Oil crowd, the Haggan-Hearst forces sought about for new worlds to conquer. Their attention was attracted to certain historic silver-copper mines far in the interior of Peru. A silver-copper proposition appealed to these interests who had just pulled out of Anaconda, the greatest of modern silver-copper propositions at that time and now. The Cerro de Pasco mines had produced about 450,000,000 ounces silver from 1630, from 40,000,000 tons of silver-copper ore, mostly above the 200-foot level. The deepest workings were only 300 feet below surface. The ore was carried on llama back 3 to 6 miles to the nearest crude smelter, which used llama dung for fuel, and the bullion had been transported on llama back 200 miles to Lima. The mines occur in a basin which became very wet and the water ultimately led to the closing of the mines. In 1870 the Government of Peru constructed the \$43,000,000 Central Railway of Peru from the port of Callao, climbing to 15,000 feet above sea level, and extending to Oroya Station, only 83 miles from the Cerro de Pasco mines. Shortly after, in 1877, one Henry Meigs undertook to reopen the drowned-out mines by a long drainage tunnel 150 feet below the deepest workings. The Government gave Meigs a concession granting 20 per cent royalties on the output of mines drained by the tunnel, and the "Rumilliana Drainage Tunnel" was begun by Meigs's Cia. Empresa Socavonera del Cerro de Pasco. After a few years' work the tunnel, uncompleted, was abandoned for lack of capital.

When the Haggan-Hearst forces entered the district in the late nineties, they acquired about 730 mining claims, 1,180 *pertenencias*, or 5,900 acres of mineral land—about three-fourths of the Cerro de Pasco district. They abandoned the drainage tunnel project and sank new shafts and installed steam pumps to handle the water, and started reopening the mines entirely independently of the old gopher workings. Over 20 miles of new underground workings have been driven. The new powerful interests constructed the Cerro de Pasco Railway, 83 miles long, standard gauge, from Oroya Station, 12,200 feet above sea level, to the mines, at 14,300 feet above sea level; the company acquired two coal mining groups, 28 miles north of the mines a 26-mile branch of the railroad was run to the Goyllarisquiga coal mines, and another 11-mile branch to the Quishuaranca coal mines; the Haggan-Hearst forces also opened up the Morococha mining district, near Oroya, which now rivals Cerro de Pasco; a great smelter was constructed at La Fundicion or Tinyachuarca, 9 miles from Cerro on the company's main line railroad; a \$1,000,000 hydroelectric power plant was constructed near Oroya, and 43,000-volt transmission lines run to the mines, smelter, and even the coal mines, the coal being used only for coke for the smelter; a coke plant was constructed, and the company even manufactures its own brick and other materials. The actual investment exceeds \$23,000,000. The properties could not be replaced to-day for \$30,000,000. The smelter was finished in 1906, but did not begin active produc-



VIEWS OF THE GREAT MINING PLANT AT CERRO DE PASCO, PERU.

Top: The company's main offices at Cerro de Pasco. Center: General view of the Cerro de Pasco Mining Company's plant. Bottom: The town of Cerro de Pasco, Peru, 14,500 feet above the level of the sea, where one of the greatest mining industries in the world is located.

tion till late in 1907. Up to 1916 it produced \$50,000,000 in copper, \$11,000,000 silver, and \$3,300,000 gold. It handled from 1908-1915, or eight years, 2,358,000 tons of ore, producing 342,000,000 pounds copper, 19,802,000 ounces of silver, and 154,200 ounces gold, or 144 pounds fine copper per ton, 84 ounces silver, and \$1.25 in gold. The Cerro de Pasco Co. mines produced about 30 to 40 per cent of the total, the Morococha and custom ores, the balance.

The enterprise was no sooner started and on its feet than the old and abandoned Drainage Tunnel Concession, or Socavonera Co., instituted litigation proceedings. They completed their tunnel in 1907, and put in a claim for 20 per cent royalties on the output of the Cerro de Pasco district mines, under the terms of their concession of 1877. The litigation was finally compromised on payment of a 5 per cent interest in the Cerro de Pasco Mining Co. (operating), instead of 20 per cent royalties.

The Cerro de Pasco Copper Corporation (holding) therefore owns only a 95 per cent interest in the Cerro de Pasco mines, railroad smelter, and coal mines. These mines controlled by the company produce about 40 per cent of the output. The corporation owns a 100 per cent interest in the Morococha Mining Co., which produces over 40 per cent of the production, the balance being contributed by custom ores of the Cerro and Morococha districts. The Morococha production has been steadily increasing in recent years. The Morococha subsidiary owns the San Francisco, Gertrudis, and San Miguel mines, and a half interest in the Natividad.

The Cerro de Pasco mines have about 10 years' ore reserve blocked out, averaging 85 pounds copper, 7½ ounces silver, and possibly \$1 in gold per ton. The company reported as of January 1, 1916, some 3,000,000 tons of now commercial ore blocked out, containing 253,452 pounds copper and 21,745,000 ounces silver. This applies only on mines in Cerro de Pasco owned by the company and not on Morococha. The Morococha ores are higher grade, running 8 to 12 per cent copper and 7 to 10 ounces silver. The Morococha mines, too, have about 10 years' ore blocked out.

The stupendousness of the enterprise may be gauged from the fact that the mineral lands alone at Cerro de Pasco and Morococha approximate 12,000 acres, or 20 square miles, of mineral claims, and there are 70,000 acres, or a domain of over 100 square miles, of water rights, ranch lands, timber, smelter site, coal lands, etc., while the railroad employs 14 powerful American locomotives.

The Cerro de Pasco Copper Corporation is capitalized at \$5,000,000, divided into 1,000,000 shares of no stipulated par value, of which 666,666 shares are issued and 333,334 shares are reserved against conversion of \$10,000,000 of 6 per cent bonds. The bonds are convertible into stock at \$30 per share on and after November 1, 1917. A sinking fund of one-third the profits is required to retire the bonds, but it is a foregone conclusion that the bonds will be converted into stock.

J. P. Morgan interests acquired a portion of the Hearst-Haggin-Mills interest in the fall of 1915, thus leading to the incorporation of the present Cerro de Pasco Copper Corporation as a holding corporation for the Cerro de Pasco Mining Co. (95 per cent), the Cerro de Pasco Railway (95 per cent), and the Morococha Mining Co. (100 per cent).

The smelter is producing about 70,000,000 pounds copper per annum and some 4,000,000 ounces silver from its own and custom ore, at a cost around 10½ cents per pound. The normal cost is 7 to 8 cents per pound. Freight rates on blister metal to the Baltimore and Perth Amboy refineries are 2 to 2½ cents per pound above normal, owing to the shipping situation, especially with the closing of the Panama Canal. Custom ore, of course, costs much higher now on high metal prices. Powder, steel, and supplies costs are higher, too. On the other hand, the advance in silver has proved a boon.

The company earned \$8,872,579 in the first 10 months of 1916, and stands to earn about \$13,000,000 in 1917 if copper averages around 30 cents. A third of the profits must be segregated into sinking fund on the bonds, but these sums will presumably be released on conversion of the bonds into stock. It must also be remembered



Courtesy of The South American.

"CERRO DE PASCO, THE ANACONDA OF PERU."

Upper: One of the company's ore bins at Cerro de Pasco. Lower: A coal mine, about 25 miles from Cerro de Pasco, owned by the company, and which furnishes part of the fuel used in its great smelter.

that the corporation is only a holding company, and its income is only such dividends as may be paid by its subsidiaries, not the total earnings of the latter. These conditions account for the current dividend rate of \$1 quarterly being so far below actual earnings. The consolidated balance sheet showed \$8,473,716 cash, metal and receivables as of November 1, 1916, versus \$1,844,939 current liabilities. Earnings since have been about \$1,000,000 a month.

The corporation for a while in 1916 was considering entry into the Bolivian tin business, but nothing has yet developed along these lines.

The Colombian Andes, by José M. Rosales, in a recent number of The South American (New York), is an interesting description of the chief topographical features of the mountainous section of the Republic of Colombia. Incidentally, the writer also deals with the mineral and vegetal products of the country as well as its picturesque features. The following is practically a reproduction of the article:

The great chain of the Andes on entering Colombia divides into three ranges that run in a northerly direction and end upon the shore of the Caribbean Sea. At the starting point, as it were, there is an elevated plateau, that of Tuqueras, 10,000 feet high, surrounded on all sides by peaks of 16,000 feet, and three active volcanoes.

The western range follows the Pacific coast with a medium elevation of about 6,000 feet, and ends in the savannahs of Bolívar.

Some 100 miles to the north of Tuqueras the central range presents a most complicated knot of crests, summits, and *paramos* inclosing a small plateau, where the sources of the Cauca and Magdalena Rivers are found. The tiny springs come out from the same lagoon, or rather a half frozen pool, and yet these rivers, as you can see in the relief map, are separated by a stupendous wall of the central Andes until they mix their waters again quite close to the sea. Some few yards from the lagoon already referred to, out of a shallow marsh, runs the Caquetá, a tributary of the Amazon, and yet a little farther we have the fountains of the river Patía which flows to the Pacific and breaks through the western Cordillera by a gorge, the sides of which rise 8,000 feet above the river.

We have, then, in this mountainous knot, shaped like the figure 8, the most interesting place in the Cordilleras, being equally the true axis of all our Andean system.

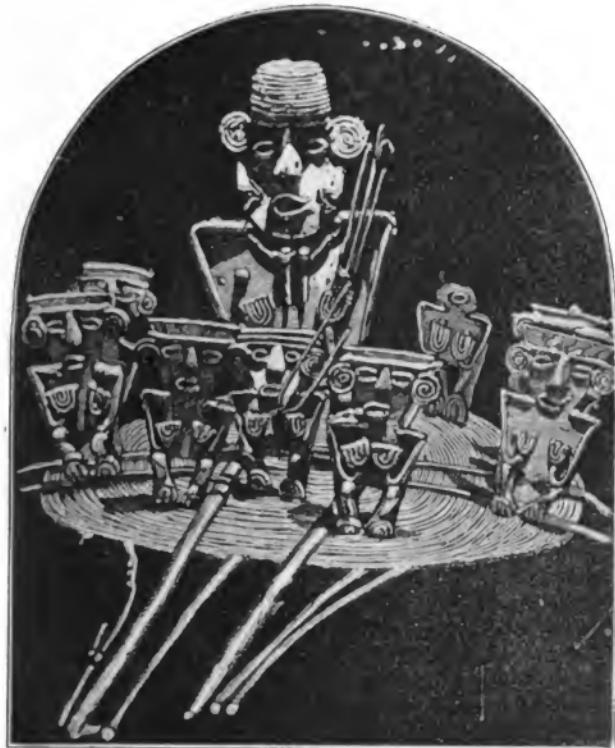
On the central range, the most imposing of the three, the highest peaks of the Andes north of the Equator may be found: Huila, 18,000 feet; Ruiz, 17,000 feet; Tolima, 20,000 feet; Herveo, 18,000 feet. All of these of course have icy tops as the snow limit in the tropics is 13,500 feet. Tolima is covered with nearly 6,000 feet of snow from the summit down.

From the spurs of the eastern Cordillera in clear weather the mighty cone of Tolima, with Mesa de Herveo a little to the north, is plainly visible, and is really a glorious sight.

After the heights of Herveo the Cordillera decreases in altitude and finally spreads like a fan to form the most mountainous district of Colombia, the mining region of Antioquia.

The eastern range attains the greatest elevation in Sumapaz, 15,000 feet, and Chita, 17,000 feet: between these two summits the Cordillera widens to hold the plateaus of Bogota, Ubaté, and Sogamoso, about 9,000 feet high and measuring, each one of them, some 10 miles long by 30 miles wide.

These fertile and extensive table-lands, with the adjacent temperate regions, were once the seat of the Empire of the Chibchas, that Indian nation that had the third place in America, ranking next after the Aztecs of Mexico and the Incas of Peru. The Chibchas numbered about 1,000,000 inhabitants and their country equaled in area the kingdoms of Belgium and Holland. This was the land of *Eldorado* so much sought by the *Conquistadores*, and the ceremony of which we all have heard so much



A GOLDEN RELIC OF THE CHIBCHAS.

The Chibchas, who once dominated the extensive tablelands of Colombia described by Señor Rosales, were quite skilled in metal working. The golden ornament pictured above seeks to reproduce the ceremony of "El Dorado," and represents the gilded caíque being rowed to the center of the Lake of Guatavita on a balsa, preparatory to taking his annual dive into the waters. The ornament is of pure gold, weighs 262 grams, and is 9½ centimeters in diameter. It is owned by a gentleman in Bogota.



LAKE GUATAVITA, COLOMBIA.

It was into this lake that the Chibchas are said to have annually thrown golden ornaments, emeralds, and other treasures in connection with the ceremony of "El Dorado." The above illustration shows the cut made during the sixteenth century in the attempt to drain the lake in order to get at the sunken treasures. The lake occupies the crater of an extinct volcano, is almost circular in shape, has a diameter of about 300 meters, and at the time of the Conquest was about 50 meters in depth. Some years ago it was entirely drained, but only a few golden objects, some beads specimens of ceramic art, etc., were found in the collected mud of the bottom.



THE FALLS OF TEQUENDAMA, COLOMBIA.

About 13 miles from the capital the River Bogota leaps over a cliff some 470 feet high and forms one of the most picturesque waterfalls in South America, whose tremendous water power is being utilized in furnishing electric light and power for the capital.

took place in the small Lake Guatavita, which occupies the circular crater of an extinct volcano.

* * * * *

Upon the southern plateau is Bogota, the capital of Colombia, with over 150,000 inhabitants, built by the Spaniards in 1538. It is a fine city, possessing the modern commodities of civilized life, yet with that dignified character and peculiar charm of the old Spanish cities, whose streets tell of historical and remarkable deeds.

Bogota was the first place in South America where a branch of the Royal Academy of the Spanish language was established, and it is generally recognized as the place in America where the mother tongue is spoken with the greatest purity. On this account, as well as for the famous university, its illustrious college of El Rosario, 350 years old, its large number of colleges, schools, academies, and its literary movement, it has deserved the name of the Athens of South America. The climate of Bogota and surrounding regions is delightful, as the temperature is only from 60° to 65° all the year round.

Bogota is connected by a railway with the Magdalena River, a splendid work of engineering, as the land attains an elevation of nearly 10,000 feet.

These plateaus, although separated from each other by transverse regions of more or less elevation, are joined together by a fine automobile road that has been built at a great expense right across the uplands with a length of about 300 miles.

The opening of the Andean ranges to the north thus forming a natural pathway for the northeastern winds blowing from the Caribbean Sea, and the rising of the eastern mountains right in front of the trade winds, account for the great humidity with which our mountains are saturated.

Hence the exceptional fertility of our Cordilleras and the abundance of navigable rivers running to all points of the compass. Then there are, of course, thousands of streams leaping down the mountain sides, useful not only for watering plantations, but because they furnish power for mills and electric plants—a power so handy and cheap that it is possible for the poorest and smallest villages in Colombia to be lighted by electricity, as in many instances is the case to-day.

The minerals of Colombia are of all sorts and very abundant. Gold is found in the central range, and there are also rich alluvial deposits around the rivers Cauca, Nechi, and in many other places.

Colombia has within her confines not only the most valuable of commercial minerals, but she has at least two—emeralds and platinum—which single her out among the mining countries of the world.

For many years after the discovery of platinum it was considered valueless, no means being known to work it. In 1788 the King of Spain offered to pay for it at the rate of \$2 per pound; to-day it is worth \$100 an ounce, and we export about 2,000 pounds a year.

The flora of the Colombian Andes depends entirely on the climate, which varies according to the different elevations. To travel from the foothills to the summit of the Cordilleras is like going from the Equator to the Arctic Circle, so that practically every zone of cultivation is embraced. There are three distinct climates, known as *tierra caliente* (hot lands), *tierra templada* (temperate lands), and *tierra fria* (cold lands). The hot lands include a tropical zone extending from the sea level up to about 3,000 feet, and a subtropical one extending from 3,000 to 5,000 feet high. This is the land of palms, of which we have 1,100 species; the Ceibas, the giant tree of the Cordilleras; the Tagua, or vegetable ivory; cacao, tobacco, cotton, sugar cane, and all the tropical fruits such as oranges, lemons, bananas, pineapples, guabas, mangoes, etc.

Nothing is more impressive than a tropical forest in the lowlands of Colombia. Here are gigantic trees to which lianas, or bush ropes, are attached as if they were the stays of a vessel's mainmast, tall and graceful palms, all sorts of medicinal and aromatic plants, orchids that are a wonder of color, and a mass of wild, luxuriant



Courtesy of The South American.

THE PRESIDENTIAL PALACE AT BOGOTA, COLOMBIA.

The home of the President is one of the handsomest buildings at the capital. Stately and dignified, it is one of the attractive features of the city.



THE POST-OFFICE BUILDING AT BOGOTA, COLOMBIA.

The postal department has about 700 post offices distributed throughout the country, and these handle approximately 7,000,000 pieces of mail matter per year.

CENTRAL SCHOOL OF ARTS AND CRAFTS, BOGOTA, COLOMBIA.



FACULTY OF LAW AND POLITICAL SCIENCE, BOGOTA, COLOMBIA.



vegetation inhabited by birds of the most brilliant plumage, bugs that look like animated gems, blossoms and flowers of scarlet, purple, and yellow that make the forest appear as if it were all ablaze.

In the subtropical regions the cultivation of coffee replaces that of cacao on the zone level. Colombia is the second coffee-exporting country after Brazil. Last year we exported 140,000,000 pounds of coffee, and the crop this year was even larger. The quantity as well as the quality of Colombian coffee comes from the fact that, as I have observed before, we have not only one chain, but three chains of Andes, or rather four with the Cordilleras of Baudo, not to mention the Sierra Nevada, and as coffee grows only on the slopes of the mountains, we have practically many vast tracts of land well adapted for its cultivation. On the other hand, coffee requires with a subtropical temperature plenty of humidity and shade, with both of which the Colombian Andes are well endowed; hence, the unequalled flavor of our coffee.

The scenery along the mountain parts of our Andes is an everlasting panorama of rarest beauty and sublimity such as no one could describe, especially the sight obtained from the cold uplands down into the sunny valleys of the hot lands.

An American traveler in the Cordillera, who was in Colombia some five years ago, writes as follows:

It is not an exaggeration to say that in our journey from the foot to the summit of the Andes, we passed in rapid review some of the earth's grandest and most entrancing prospects. Sometimes I was reminded of the mountains and valleys of the Alps, at others of the peaks and canyons of the Rocky Mountains. Some cataracts recalled the waterfalls seen leaping from the lofty precipices of Alaska, others those that add such a charm to the manifold wonders of the Yellowstone.

But the Andean views can always claim a superiority over all northern scenes of a similar character. In the marvelous setting afforded by the ever verdant and exuberant vegetation of the tropics, the higher we ascended above the lowlands, the less dense became the forest, and less luxuriant the vegetation. But although the giants of the forest were not longer visible, there was little diminution of the splendors of the floral display along our paths. In one place, particularly, we were surprised beyond measure to find the whole side of a mountain spur covered with a glorious mantle of immaculate white lilies.

The Andes possesses within its mighty folds many natural wonders, but doubtless the most remarkable of them all is the cataract of Tequendama located on the river Bogota. A ride of 12 miles on the Southern Railway takes the tourist to the end of the plateau and then alongside of the upper rapids to the Charquito, a place where the river opens as if it were a lake and where the electrical plant that supplies Bogota with light and power is situated.

Looking down into the depths of the great chasm it appears to be almost entirely closed by walls of titanic masonry owing to the level course of the surrounding strata. A fall of 40 feet precipitates the whole column of the river on to a ledge of the rock, from whence it bounds out without touching the rock again into the cauldron 500 feet below.

The river a little above the falls is 160 feet wide, but just on the edge it narrows to 60 feet. Niagara is, of course, on a much larger scale, and so is Iguazu in Brazil, but Tequendama is the only cataract in America that presents such a height combined with such a volume of water.

Herbert Adams is the subject of the April, 1917, installment of the "Sculptors of the Americas" series appearing in the Spanish edition of the *BULLETIN*. The following is the English version:

Herbert Adams, President of the National Sculpture Society, and one of America's foremost leaders in art and sculpture, is generally recognized by students of art as a master, almost unequalled, in a certain form of sculpture as rare as it is exquisite—the creation of beautiful busts of women. This judgment, in fact, is freely ex-



Photograph by Harris-Ewing.

BUST OF SAN MARTIN IN THE PAN AMERICAN UNION BUILDING,
WASHINGTON, D. C.

In the Gallery of Patriots of the Pan American Union building is this beautiful marble bust of San Martin by Herbert Adams. It is regarded as one of the finest likenesses of this great South American that has ever been chiseled in stone, bronze, or marble.



THE PRATT MEMORIAL ANGEL, BAPTIST EMMANUEL CHURCH, BROOKLYN, N. Y.

This figure, in the round, was modeled a few years before Adams was commissioned to make the Pratt Memorial Tablet, described in the article. It is a work of gratifying purity and elevation.



THE WELCH MEMORIAL, AUBURN THEOLOGICAL SEMINARY, AUBURN, NEW YORK.

An impressive panel in the marble triptych of the memorial. The deceased minister, to whose memory the work is dedicated, is pictured in the central panel (not shown here) at half length as he appeared in the pulpit. Upon either side are kneeling figures bearing churchly attributes. The perils and pitfalls of low relief have been avoided with consummate skill and the result is a joy to the eye as well as to the intelligence.

pressed by Lorado Taft, himself a sculptor of genius and note. Adams, continues the commentator, is an accomplished sculptor and knows every branch of his art. There is, however, nothing so very distinctive in his figures, whereas in his female heads he transcends almost everyone known in modern sculpture. The delicately refined sentiment of the sculptor, product of a naturally sweet and modest temperament, has discovered its fittest expression in flowers and in the flower-like forms of women and children, influenced in its manner by decorative feeling. That he is without rival in the United States and even unsurpassed in France is the verdict of many critics.

From his earliest years Adams had desired to be a sculptor. He came from an old New England family and was born at West Concord, Vt., in 1858. He received his general education in the grammar and high schools of Fitchburg, Mass., where he also passed his boyhood. This training was followed by special studies at the Worcester Institute of Technology and at the Massachusetts Normal Art School. Then followed a period of five years in Paris, where he studied under Mercié, the pupil of Falguière. During the years spent in France he studied in the galleries and frequented the Louvre not only for the sculpture but also for the paintings.

That the paintings which he saw at the world-famous galleries had a very marked influence upon his technique and motives as a sculptor one can scarcely doubt. His early works show more feeling for the harmonic rendering of light and shade and for the decorative treatment of the surface than for the structure and character of form. They reveal likewise a specialization in sentiment, quietly intense in character, and tinted frequently with enigmatic suggestion, so thoroughly suggestive of the Italian sculpture and painting of the fifteenth century.

While in Paris Adams produced two notable pieces of sculpture—a portrait bust of the young lady who afterwards became his wife, and a fountain for the city of Fitchburg showing a bronze group of two boys at play with some turtles. Upon his return to the United States, in 1890, he was engaged as instructor in the Art School of Pratt Institute, Brooklyn, N. Y. Here he spent about eight years, during which time he received a number of important commissions, which added to his skill and reputation. Among these was the Pratt Memorial, a tablet modeled for a church in Brooklyn, N. Y. At the top of this memorial is a winged head symbolizing the angel of the Resurrection, and at the foot a head without wings representing the Sleep of Death. The faces are very beautiful, the expression being chiefly centered in the eyes. The chastity and serenity of the faces are echoed in the floral borders so richly patterned along the panels. The artist has gone to nature for his models and reveals how exquisitely he can use flower forms as motive for decoration. The Pratt Memorial Angel is

THE TYMPANUM ABOVE THE BRONZE DOORS, SAINT BARTHOLOMEW'S CHURCH, NEW YORK.

In commenting upon the modern, vile, and rather worldly expression of this Scriptural subject, Taft, the sculptor, remarks: "It is hard to be naif to order, and Mr. Adams has prudently compromised with the advance of civilization. If he has created something beautiful on old-time lines; he has even kept the fragrance of the fifteenth century; but he has been wise enough to acknowledge that this is a tableau, a dream, and not the reality. His honesty, which may have been inevitable, disarms criticism, and we can enjoy without stint the grace, the tenderness, and the very real if unobtrusive originality of the relief which lies to so great an extent in the personal note of its workmanship."





PORTRAIT OF RICHARD MANSFIELD IN THE NATIONAL ACADEMY
OF DESIGN EXHIBITION, NEW YORK.

In these works Adams has given expression to the two distinct characters represented. In John Marshall, the great jurist, he has portrayed the rugged power and force characteristic of the man, while in Richard Mansfield, the eminent actor, he has accentuated the refined temperamental quality of the artist.



BRONZE STATUE OF CHIEF JUSTICE JOHN MARSHALL, CLEVELAND
COURTHOUSE, CLEVELAND, OHIO.

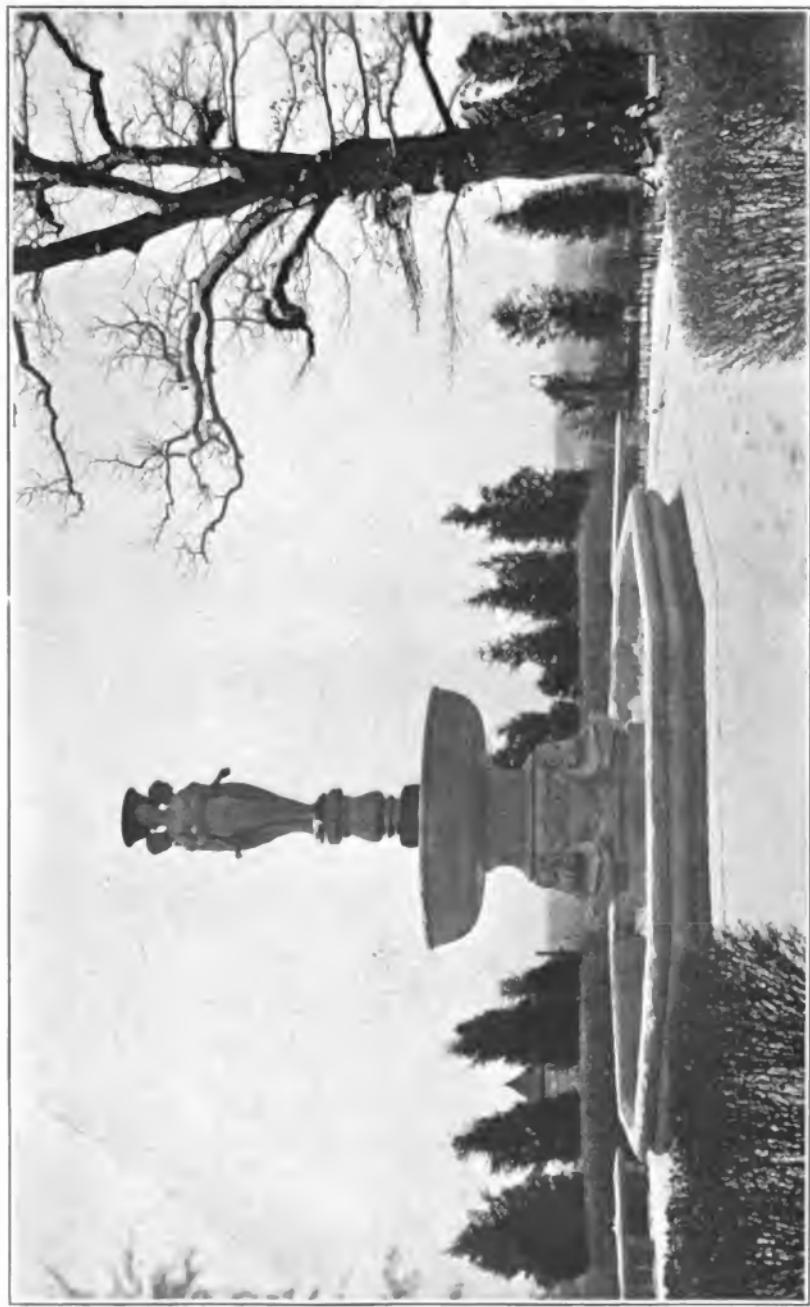


Photo by Harris-Ewing.

THE McMILLAN FOUNTAIN, McMILLAN PARK, WASHINGTON, D. C.

In its massing, charm, and beauty there are few group figures in the Nation's Capital to compare with this work of Adams. Each figure is poised just a little differently from the next, and the graceful sweeps of the lines in the body, hands, and feet of the forms reveal the sculptor in his most favored works.

another work of gratifying purity and elevation. The whole effort is quick with fragrant and fresh appeal, and one critic observes that no plastic decoration has been produced in the United States which can approach it in beauty; perhaps not even in the actual beauty of the ornamental forms, certainly not in the sentiment of pure and holy calm which it exhales.

Another work which the sculptor produced during this period was the Hoyt Memorial tablet, designed for a New York church. The figures in relief are of singular charm and this work won much praise at an exhibition of the National Sculpture Society. Then mention should be made of his contributions to the Congressional Library—namely, the bronze doors representing "Writing," and the bronze statue of Prof. Joseph Henry, standing in the rotunda. Following these came the Welch Memorial, a work in marble made for the Auburn Theological Seminary, Auburn, N. Y. This conception consists of a marble triptych, in which the deceased minister is pictured half length, as seen in the pulpit, upon the central panel, while kneeling figures are shown bearing churchly attributes upon either side. The Jonathan Edwards Memorial, a bronze relief created for a Massachusetts church; the Bulfinch Memorial tablets in bronze adorning the Boston Statehouse; the bronze statue of the type founder Richard Smith, of Philadelphia; and the several beautiful though ephemeral works, the colossal nude "Light," which crowned the electric tower at the Buffalo Exhibition, and the graceful "Victories," which lined the approach to the Dewey Arch in New York, include his more important efforts.

During this period Adams also designed the bronze doors for St. Bartholomew's Church, New York. These are elaborately decorated with Scripture subjects in high relief. Above them a semicircular tympanum pictures the Madonna and Child within a wreath held by two kneeling maidens. The inspiration of this relief, which is a work of great delicacy and tenderness, will be traced by many to Luca della Robbia. The faces in this concept, however, treated so simply as to be almost classic, have more complex mentalities than were ever found in Della Robbia's glorified peasants. Though physically naive, they have not only souls but a fair share of worldly wisdom behind their placid features. If, on the one hand, the figures seem to lack a certain touch of the sculptor's usual spirituality, on the other hand they reveal an atmosphere of modernity and virility which reflect another side of the sculptor's character. Regarded from the point of view of an architectural decoration it is unusually distinguished with admirable appropriateness of lines and masses to the space, a truly architectural feeling, and a distribution of light and shade characterized alike by richness and delicacy.

In the bronze statue of Chief Justice of the Supreme Court John Marshall, which adorns the courthouse at Cleveland, Ohio, and in the



STATUE OF WILLIAM CULLEN BRYANT FRONTING THE NEW YORK PUBLIC LIBRARY.

Adams has imbued a spirit of dignity and sympathetic tenderness in his treatment of the poet Bryant. The poet is poised easily in his seat, one arm resting on the chair and the other on his lap holding a number of manuscripts. The tone of noble reflection on life and nature which one finds in Bryant's poems is also found in the expression which the sculptor has given to this statue.



PORTRAIT BUST OF THE AMERICAN ACTRESS, JULIA MARLOWE.



THE HAWLEY MEMORIAL AT THE STATE CAPITOL, HARTFORD, CONN.

portrait panel of one of America's finest actors, Richard Mansfield, the sculptor's breadth and versatility are strikingly apparent. In the one the artist has expressed the powerful and vigorous figure of the great statesman and jurist, while in the other the refined temperamental face of the actor is sympathetically delineated. The statue of William Cullen Bryant, fronting the New York Public Library, is another work in which Adams has imbreathed his own artistic spirit into that of the poet's figure.

The McMillan Fountain, standing in McMillan Park, Washington, D. C., is a gem of sculptural achievement and reveals Adams at his best in the creation of the female head and figure. The exquisite charm and beauty of the group of figures supporting the superimposed basin evoke spontaneous admiration. The attractive facial expressions, the soft, easy, and graceful lines of the forms, and the harmonious massing of the figures, each poised differently, sustain the sculptor's reputation in this particular branch of sculptural endeavor.

The bust of the American actress, Julia Marlowe, shown in the illustrations, is one of a number of similar efforts which Adams exhibited at the Pan American, Buffalo, and other expositions. These female busts demonstrate the truly artistic temperament of their author. It is in his choice and treatment of the heads that he reveals his true personality. It is as impossible for him to represent what is ungracious and unrefined as it is for him to be crude in workmanship. Adams, moreover, has been able to make use of the art of coloring in his sculptured busts with so choice a feeling as to give the finished products a quality of very rare distinction. This is especially noteworthy since the practice of coloring sculpture, though dating back to earliest times, is at present in use only in oriental countries, while here in the Occident it has been abandoned, and is not regarded with favor by artists or sculptors. But Adams's effective use of this color work is favorably received. If in modeling the portrait of a woman the artist feels that there is an expression in the eyes or latent in the curve of the lips which to him summarizes the impression of the subject's character, he resorts to color either in the eyes or lips, or perhaps in the shadows of the hair, in order to emphasize this or that certain trait or striking characteristic.

Mr. Adams's busts are conceived as works of art, complete in themselves, as bust portraits are conceived by good painters. The face is emphasized as the center of interest, and other parts accentuated with diminished force according to their distance from this focal point. The accompanying illustrations afford the student a much better opportunity to admire the art of Herbert Adams than pages of description, and a review of the variety and versatility of the sculptor's works with an appreciation of its charm and beauty will explain why Herbert Adams occupies such a high position among the world's great contemporaneous sculptors.



Courtesy of Sr. Carboni of "El Dia," Montevideo.

SR. DR. ISIDRO FABELO, MINISTER OF MEXICO, LEAVING THE GOVERNMENT PALACE AT MONTEVIDEO, AFTER PRESENTING HIS CREDENTIALS TO THE PRESIDENT.

In the carriage, sitting at Minister Fabelo's left, is Sr. Don Fermín Carlos de Yerpa, official introducer of ministers and chief of the division of diplomatic affairs of the Uruguayan foreign office. The official reception of Minister Fabelo by President Feliciano Viero was attendant with all the usual ceremonies of such occasions. The minister and the official introducer, accompanied by Col. Don Bartolomé Sanginetti, aide-de-camp to the President, were conveyed to the Government place in an official carriage, escorted to and from the legation by a troop of cavalry from the historic First Regiment.



Photograph by Harris-Ewing.

SENHOR JOSÉ FRANCISCO DE BARROS PIMENTEL.

Minister of Brazil at Caracas, Venezuela.

Minister Pimentel entered the diplomatic service of his country in 1904 with the rank of second secretary, and the following year he was assigned to duty in the Department of State at Rio de Janeiro. After a few months there he was transferred to London. In 1908 he acted as Chargé d'Affaires of Brazil in Holland, and the next year was sent to Caracas, Venezuela. His next post was the United States, to which he came in 1910. While in Washington he was promoted to first secretary in 1913. From Washington Senhor Pimentel was sent to Tokyo, Japan, where he served as Chargé d'Affaires. His next assignment was to Mexico, but before he reached this new charge he was promoted to the rank of Minister Resident and assigned to the legation in Venezuela.



Photograph by Harris-Ewing.

WARREN D. ROBBINS, ESQ.

First Secretary of the U. S. Embassy at Buenos Aires, Argentine Republic.

Mr. Robbins was born September 3, 1885, and after receiving his preliminary education at the Groton School in Groton, Mass., he entered Harvard University, graduating therefrom in 1908 with the degree of A. B. The next year Mr. Robbins commenced his diplomatic career as private secretary to the Ministers to Portugal and Argentina. In 1911, after formal examination, he was appointed third secretary of the American Embassy at Paris. On April 24, 1914, he was promoted to second secretary of the Embassy at Mexico City, but he did not assume the duties of that post. The following month he was appointed secretary of the Legation at Guatemala and served in that capital until January 26, 1916, when he was detailed to duty in the Division of Latin American Affairs in the State Department at Washington. In July, 1917, Mr. Robbins was named first secretary of the Embassy at Buenos Aires.



Photograph by Harris & Ewing.

SEÑOR DR. ALFONSO DELGADO.

First Secretary of the Legation of Colombia at Washington, D. C.

Dr. Delgado, who is a native of Popayan, graduated from the School of Law of Bogota. Among the positions he has held are those of consul of Colombia in New Orleans and chancellor of the consulate general of Colombia in London.

SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED UP TO JULY 15, 1917.¹

Title.	Date.	Author.
ARGENTINA.		
Booklet "El Intercambio Economico de la Republica Argentina en 1916."	1917. Apr. 14	W. Henry Robertson, consul general, Buenos Aires.
Prohibited exportation of wheat and wheat flour.....	Apr. 14	Do.
Coal to be taken by steamers leaving Argentina.....	Apr. 20	Do.
Project for municipal slaughterhouse postponed.....	Apr. 24	S. Reed Thompson, vice consul, Rosario.
Changes in warehousing and handling charges of goods entering Argentina.	Apr. 27	W. Henry Robertson, consul general.
Judicial decisions on cancellation of mortgages and mortgage bonds.	Apr. 28	Do.
War risk and c. i. f. clause.....	do....	Do.
Proposed alcohol and tobacco monopoly in Argentina.	Apr. 29	Do.
Alleged discovery of coal.....	May 2	Do.
Changes in tariff on petroleum and products.....	do....	Do.
New Portland cement factory in Argentina.....	May 3	Do.
Argentine minerals.....	do....	Do.
Completion of dry dock at Puerto Miltar.....	May 4	Do.
Additions to annual report on commerce and industries, 1916.	Apr. 7	William Dawson, Jr., consul, Rosario.
Imports and movements of shipping at port of Buenos Aires, first quarter of 1917.	Apr. 13	W. Henry Robertson, consul general, Buenos Aires.
Destination of principal exports for first quarter of 1917.	Apr. 14	Do.
Cereal exports from Bahia Blanca, first quarters, 1915-1917.	do....	Do.
BRAZIL.		
Construction of new packing house at Santos.....	Apr. 18	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Wolframite in Brazil.....	Apr. 19	Do.
Sugar industry in Sao Paulo.....	Apr. 20	Chas. L. Hoover, consul, Sao Paulo.
Production of Indian corn in Sao Paulo.....	Apr. 27	Do.
Cacao industry.....	Apr. 29	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Telephone directory.....	May 3	Samuel T. Lee, consul, Rio Grande do Sul.
Copy of "Estatistica da Instruccao," Vol. I.....	May 10	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Modern sanatoriums in Brazil.....	May 12	Do.
Delivery of print paper to newspapers in Brazil.....	May 25	J. B. Stewart, vice consul, Pernambuco.
CHILE.		
Population of Chile and of the principal cities.....	Apr. 26	I. J. Keena, consul general, Valparaiso.
COSTA RICA.		
Cacao in Costa Rica.....	May 18	Benjamin F. Chase, consul, San Jose.
Annual report on commerce and industries for 1916.....	May 21	Do.
DOMINICAN REPUBLIC.		
New sugar estate, Barahona district.....	May 23	Clement S. Edwards, consul, Santo Domingo.
ECUADOR.		
High cost of living in Ecuador.....	May 9	Frederic W. Goding, consul general, Guayaquil.
Guayaquil market report for April.....	May 10	Do.
Suspension of Ecuador's new custom law.....	May 21	Do.
HONDURAS.		
Rigid iron conduits for electrical installations.....	May 24	Walter F. Boyle, consul, Puerto Cortes.
Food products from Puerto Cortes district.....	June 8	Do.

¹ This does not represent a complete list of the reports made by the consular officers in Latin America, but merely those that are supplied to the Pan American Union as likely to be of service to this organization.

Reports received up to July 15, 1917—Continued.

Title.	Date.	Author.
MEXICO.		
Oil report for February and March, 1917.....	1917. Apr. 10	Claude I. Dawson, consul, Tampico.
Receipts of Vera Cruz customhouse for April, 1917.....	May 4	William W. Canada, consul, Vera Cruz.
Hay.....	May 11	Do.
Petition for irrigation privileges.....	May 15	C. C. Woodward, consul, Matamoras.
Thefts of merchandise imported from Vera Cruz.....	May 19	William W. Canada, consul, Vera Cruz.
Compilation of principal industries and products in consular district.....	Undated.	William F. Blocker, consul, Piedras Negras.
Receipts of Vera Cruz customhouse for May, 1917.....	June 2	William W. Canada, consul, Vera Cruz.
PANAMA.		
Registration of bills of credit.....	Jan. 11	A. G. Snyder, consul general, Panama.
Panamanian legislation—Abstract of laws passed by last National Assembly.....	May 22	Do.
Express company establishes office in Colon.....	May 23	Julius D. Dreher, consul, Colon.
Annual report on commerce and industry, 1916 and 1915.....	June 1	A. G. Snyder, consul general, Panama.
Hunting laws, etc., in Panama and Canal Zone.....	June 1	Do.
PERU.		
Peruvian cotton statistics for years 1915-16.....	May 8	William W. Handley, consul general, Lima.
"American Society of Peru" organized at Lima.....	May 18	Do.
SALVADOR.		
Construction work.....	June 20	Francis M. Sack, vice consul, San Salvador.
URUGUAY.		
Government seeks to increase oat production.....	Apr. 28	William Dawson, jr., consul, Montevideo.
Market for motion-picture films.....	Apr. 30	John C. Terry, vice consul, Montevideo.
Tariff on silk goods in Uruguay.....	May 3	William Dawson, jr., consul, Montevideo.
VENEZUELA.		
Venezuelan mining notes.....	May 28	Homer Brett, consul, La Gualva.
Venezuelan production of foodstuffs.....	May 30	Do.
Changes in Venezuelan port charges.....	June 1	Do.
Market for motion-picture films.....	June 12	Frank Anderson Henry, consul, Puerto Cabello.



ARGENTINE REPUBLIC

The engineering section of the department of agriculture of the Argentine Government estimates the production of PETROLEUM in the Comodoro Rivadavia district in 1917 at 200,000 metric tons. The oil already stored at the port in the zone referred to is 45,000 tons. The Argentine Government has vessels engaged in the transportation of this oil from Comodoro Rivadavia, which have a capacity of about 30,000 metric tons of petroleum a month.—According to "La Razon," a daily newspaper of Buenos Aires, an American refrigerating company will erect a large PACKING HOUSE and cold-storage plant in the vicinity of Rosario, Province of Santa Fe. The provincial legislature has enacted a law exempting enterprises of this kind established in that province from the payment of taxes. The establishment referred to will employ several hundred people at the beginning of its operations.—Analyses by the department of public works of samples of COAL from the recently discovered Chubut mines have proved very satisfactory. A larger consignment of this coal has been made, so as to conduct an actual test of its practical value as a fuel. The Government will also analyze coal from the Mendoza mines, and has arranged for the State Railway at Tucuman to test 60 tons of this coal.—Statistics compiled under the direction of the department of commerce and industries of the Argentine Government show that there are 25 BREWERIES in the Republic, with an estimated annual output of 770,859 hectolitros (hectoliter = 26.42 gallons). The capital invested in this industry aggregates 64,248,465 pesos, currency (paper peso = \$0.425). The sale of brewery products in 1916 amounted to 26,299,556 pesos, currency, and the number of people employed was 3,114, and the wages paid 4,069,242 pesos.—It is estimated that there are now 50,000,000 JUTE SACKS available in the Argentine Republic for handling the next crop of wheat, oats, and flaxseed. These sacks are sufficient to contain 3,000,000 tons of grain. As the total crop of these cereals is estimated at 6,000,000 tons, it will be necessary to provide 50,000,000 more sacks or substitutes therefor in order to properly handle the output of the cereals referred to.—The bureau of statistics of the Argentine Government has compiled reports showing that during the months of January, February, and March of the present year the exports from Argentina amounted to 204,963,471 pesos Argentine gold (gold peso = \$0.9648), or 39,771,332 gold pesos more than during the same period of 1916. These exports for the quarter referred to represented in gold pesos the following products: Stock and stock products, 114,480,273; agricultural

products, 70,758,676; forestal products, 5,156,840; and other products, 14,567,682.—The land department of the Argentine Government has received an official report recommending the cancellation of DEFECTIVE LAND GRANTS covering 1,014,563 hectares (hectare = 2.47104 acres) of public lands in the Territory of Santa Cruz acquired for speculative purposes. Should these grants be canceled, the lands in question will be thrown open to actual settlers, who will be given clear titles to them upon compliance with the Argentine land laws.—The ARGENTINE LEAGUE AGAINST TUBERCULOSIS treated 4,340 cases in 1916 and conducted an active propaganda throughout the Republic looking to the prevention and cure of this malady.—BANK BALANCES in the Argentine Republic on April 30, 1917, showed amounts on hand aggregating 63,096,197 pesos, gold (gold peso = \$0.9648), and 637,190,746 pesos, currency (paper peso = \$0.425).—The 31 SUGAR CANE ingenios (plantations) of the Argentine Republic ground in 1916 cane estimated at 2,000,000 tons, as compared with an estimated quantity of 2,500,000 tons in 1917. Thirty per cent of this amount represents bagasse, which recent investigations show could be utilized in the manufacture of paper should that industry be established in the Republic.—During the latter part of May of the present year a CONGRESS OF OBSTETRICS and gynecology was held in Buenos Aires, delegates from the neighboring countries participating.—On May 24 last the HOSPITAL of San Roque was inaugurated in the city of Dolores. The building, which is said to be one of the best for hospital purposes in the country outside of the national capital, was donated by Mrs. Valeria V. de Crotto.—During the first part of June last the commission of the Argentine Government in charge of the PURCHASE AND DISTRIBUTION OF SEEDS to agriculturists had received 9,500 requests for seeds representing 36,500 tons of wheat and 3,500 tons of flaxseed. It is estimated that the area sown to these cereals in the Argentine Republic during the present year will not be less than 7,000,000 hectares, and that the production of wheat alone will aggregate 5,000,000 tons.—On July 8, 1917, the FIRST CONGRESS OF NOTARIES met in Buenos Aires.—The area under COTTON CULTIVATION in the Argentine Republic in 1916 was 3,390 hectares, as compared with an estimated area in 1917 of 4,000 hectares.—The bureau of statistics of the department of agriculture has published figures showing that the SALES AND MORTGAGES OF RURAL PROPERTY in Argentina in 1916 amounted, respectively, to 305,877,186 and 170,432,317 pesos, currency (paper peso = \$0.425).—A Scandinavian syndicate is negotiating with the Argentine Government concerning the exploitation of FIBROUS PLANTS and the establishment of a factory

for the manufacture of textiles and sacks. The company referred to is now operating a textile factory in Paraguay, the raw materials for the use of which come from the fibrous plants of that country.



Hundreds of barrels of CEMENT AND MORE THAN 500 BOXES (bultos) of freight have been ordered passed free of duty at the customhouse at Uyuni; all of these materials are destined for the new railroad between Potosi and Sucre, which is now under construction.—A COMMERCIAL GUIDE OF LA PAZ is the title of a new book which is being compiled and edited by Luis Dick A. Recent business activities in La Paz and throughout the mining region of Bolivia have added many new names to the business world as well as other data which will be included in the forthcoming guide.—Sr. Don Adolfo Diaz Romero, well known in diplomatic circles in Washington, London, and other capitals, has been named CONSUL GENERAL AT PARA, Brazil. Sr. Romero formerly held this important post but was recalled to La Paz at the outbreak of the European war and made assistant minister of foreign relations. More recently he has held the post of professor of law in the University of La Paz. He has already reached Para and entered upon his duties.—An AUTOMOBILE has been run from Oruro to La Paz, a distance of about 150 miles, in six hours. This is considered unusually quick time owing to the poor roads existing for a portion of the distance. On certain parts of the highway a speed of 50 miles per hour was attained.—The president of the Geographic Society of La Paz, Dr. Manuel V. Ballivian, has directed an official communication to the chief of a branch of the ministerio de gobierno y fomento calling attention to the necessity of preserving the ancient monolith recently unearthed at Tiahuanacu. Attention is also called to the wanton destruction of parts of THE ANCIENT RUINS by curio hunters and others and to the fact that the vast area over which they are scattered belongs to the State and therefore should be preserved for future generations.—Among the most interesting exhibits at the museum of the consulate general of Bolivia in New York are the VARIOUS GRADES OF SILK from the region of Cochabamba, Bolivia. This product is of excellent quality, and the industry could be greatly increased by the introduction of additional capital and modern appliances for handling the raw materials.—A company of CAMP FIRE GIRLS (Ninas de los campos de fuego) was recently organized at the American Institute in La Paz, with the object of engaging in such exercises,

sports, and study as do other branches of this well-known organization in Europe and the United States. Mrs. Virginia B. Whitehead is the organizer and Señorita María Cusicanqui is assistant. Twenty students compose the first company.—*El Diario* of La Paz recently contained a summary of the nation's RAILWAY PROGRESS under the administration of President Montes, whose term of office expires on August 6 next. Between the years 1906 and 1917 eleven different lines of railway were constructed, totaling more than 660 miles; while the lines still in process of construction measure more than 350 miles. Thus in a comparatively short time the country has advanced rapidly in means of getting its raw products toward world markets, one of the greatest necessities of all new countries. Bolivia to-day has approximately 840 miles of railways, including the completed line to Cochabamba, which was officially inaugurated on July 4 last by President Montes and other officials who journeyed from La Paz to the inland city for that purpose.—The annual report of the Anglo-Bolivian RUBBER COMPANY, which operates rubber estates in the region of Concepcion, 125 miles northeast of Santa Cruz, shows a dividend of 10 per cent. This company has 1,250,000 shares, each share having an approximate value of 25 cents. The new manager of the estates is Mr. W. D. McDougall, who, with two assistants, recently arrived in Bolivia from England.



Some years ago considerable quantities of Indian corn were imported from the Argentine Republic to supply the demands of the southernmost States of Brazil. About the year 1900, however, the price of coffee fell so low in the State of São Paulo that planters commenced the cultivation of corn on coffee plantations between the rows of coffee trees. Since the year referred to the growing of maize has constantly increased throughout southern Brazil, and of late years has proved to be a most profitable crop. The packing houses of the State of São Paulo have also encouraged the raising of Indian corn for use in fattening stock, especially hogs, cattle, and sheep. In the States of São Paulo, Paraná, and Minas Geraes hundreds of corn clubs have been organized, and these have greatly stimulated the cultivation of this cereal. At Curitiba, capital of the State of Paraná, the THIRD NATIONAL CORN EXPOSITION is to be held from August 12 to 14 of the present year. The principal varieties of maize grown in southern Brazil are the white, yellow, and mixed.—A recent executive decree authorizes the construction of a RAILWAY from Tubarão to Araranguá. When this road is

completed it will furnish transportation facilities to the great coal-mining region of Santa Catharina and will enable coal to be quickly and cheaply transported, via Porto Alegre, to Rio de Janeiro, and other industrial centers of the Republic. The length of the road planned is about 80 kilometers.—The fortnightly review entitled, "Brazil Ferro-Carril," published in the National Capital, says that the principal WOLFRAMITE deposits of the Republic are in the States of Minas Geraes, Bahia, Rio de Janeiro, Ceara, Rio Grande do Norte, and Parahyba. A sample of wolframite ore from Rio Grande do Norte, recently assayed in Rio de Janeiro, proved to be of a better grade than that of the ores taken from the wolframite mines of Portugal.—The FIRST ROAD CONGRESS of the State of São Paulo opened its sessions on May 1 last in the city of São Paulo with 360 delegates in attendance, 140 of whom represented municipalities.—The Continental Packing Co. at Osasco, State of São Paulo, recently slaughtered 105 head of ZEBU BEEVES, which produced an average quantity of chilled meats of 25 arrobas (arroba = 25 pounds) each.—Prominent Brazilian physicians in Rio de Janeiro have taken preliminary steps toward the organizing of a company looking to the establishment in various parts of the Republic of modernly equipped SANITARIUMS, the first of which will be located, according to present plans, on the side of the Itatiaya Mountain near the National Capital.—Dr. David Speroni of Buenos Aires has accepted the invitation of the Faculty of Medicine of Rio de Janeiro to give a series of lectures on GYNECOLOGY in the National Capital and in São Paulo in June and July of the present year.—The Brazilian Carbide of Calcium Co., of Palmyra, State of Minas Geraes, produced 61,016 drums of CALCIUM CARBIDE in 1916, as compared with 50,146 drums during the previous year, some of which was exported to the Argentine Republic.—The State of Parana has been authorized by the President of the Republic of Brazil to improve the PORT OF PARANAGUA and to control and use the same for a period of 60 years. The improvements are to be made in accordance with plans and estimates sanctioned by the General Government.—The secretary of the treasury of the Government of Brazil, acting under authority vested in him by an executive decree of May 9 last, will issue 20,000,000 milreis (\$4,800,000) in TREASURY NOTES. This will make the amount of paper money in circulation in the Republic 1,157,527,725 milreis, valued, approximately, at \$278,000,000 American gold.—The PETROLEUM zones of Brazil, as at present known, are situated in the States of São Paulo, Minas Geraes, Bahia, Pernambuco, Sergipe, Parahyba, Rio Grande do Norte, Maranhão, Para, and Amazonas.—TOBACCO is said to have been cultivated in Brazil as early as 1570, the State of Bahia being then, as it is now, the principal tobacco-producing

region of the country. The other tobacco-growing districts are Minas Geraes, São Paulo, Santa Catharina, Goyaz, Sergipe, Alagoas, Pernambuco, Parahyba, Rio Grande do Sul, Ceara, Piahuy, Para, and Maranhão.—The STOCK FAIR, which was opened at the old agricultural school grounds at Rio de Janeiro on May 13 last, closed its exhibits on June 6 of the present year.—Reports from Rio Grande do Sul are to the effect that a short distance from the coal mines of that State large deposits of IRON ORE, manganese, wolfram, and lime have been found.—The São Paulo-Rio Grande Railway Co. has been authorized to build and operate a road from a point on its Paranapanema branch lines to the COAL MINES in the Peixe River Valley, State of Parana.—With the object of stimulating trade, steps have been taken by the Argentine Government, in cooperation with the export interests of Buenos Aires, to open permanent EXHIBITS OF ARGENTINE PRODUCTS in Rio de Janeiro and São Paulo.



CHILE

On September 1, 1917, the Mauco IRRIGATION CANAL, the cost of which is estimated at 1,591,332 pesos, currency (peso currency=\$0.22), is to be opened to public service.—The National Government has been authorized to issue 14,000,000 pesos, in BANK NOTES of 2, 5, 10, 100, and 500 peso denominations, respectively.—On August 1 next the land department of the Government of Chile will sell at auction leases on GRAZING LANDS in the Territory of Magallanes, good until December 31, 1933.—According to data compiled by the Bureau of Statistics of the Chilean Government, the POPULATION of the Republic of Chile on December 31, 1916, was 3,870,022, or an increase in 10 years of 620,743. The population of Santiago, the national capital, is given as 406,495, and that of Valparaiso, the principal port of the country, as 207,008.—In September, 1917, a CHARITY (BENEFICENCIA) CONGRESS will meet in Santiago. This is the first congress of this kind to be held in the Republic.—The President has sent a message to Congress recommending the limitation of EXPORTS OF CERTAIN FOOD PRODUCTS, among which are wheat, flour, and beans.—A bill has been introduced into Congress providing bounties for the construction of MERCHANT MARINE vessels, and offering measures for the protection and upbuilding of a national merchant marine.—The Government of Chile has published statistics showing that the output of the COPPER mines of that country in 1916 amounted to 71,430 tons, as compared with 52,081 tons in 1915.—The Chilean

Government has authorized Liborio Guerrero and Cristino Haase to establish and maintain a regular NAVIGATION SERVICE on Lake Llanquihue for a period of six years.—Steps have been taken looking to the organization of a Commercial and Industrial BANK with headquarters at Santiago and with branches at Valparaiso, Talca, Chillan, Concepcion, Temuco, Valdivia, and other industrial cities. The initial capital of the bank is to be 2,000,000 pesos, currency.—According to the message of the President of the Republic delivered to the National Congress on June 2 last, the FOREIGN COMMERCE of Chile in 1916 amounted to 736,105,572 Chilean gold pesos (gold peso = \$0.365), of which 222,520,828 represent imports and 513,-584,744 exports, or an excess of exports over imports of 291,063,916 pesos.—The Chilean press announces that a company has been organized in Santiago to work the Pidey COAL MINES, situated on the ranch of the same name a kilometer distant from Marfil station. The engineers who were commissioned to report upon the mines encountered the first coal vein at a depth of 50 meters. The analysis of this coal is reported to have shown that it was of excellent quality.—The President has requested Congress to authorize the establishment of LEGATIONS in Uruguay, Colombia, Mexico, and Venezuela.—Oscar Bravo Echart, a Chilean agricultural engineer, has been commissioned by the Government to study in the United States the CELLULOSE INDUSTRY for the manufacture of paper.—About the middle of May last the foundry operated in connection with the railway shops at Santiago commenced the manufacture of IRON BARS to be used as construction material for the new shops at San Bernardo.



According to data published by the bureau of statistics of the department of Huila, there were made in that department last year 207,913 STRAW HATS, valued at \$399,324, gold.—The Government of the Department of Antioquia has taken preliminary steps to establish a LABORATORY for the manufacture of vaccine to be used by stockmen in the prevention of murrain and similar diseases of cattle.—On May 21 last the Congress of Venezuela ratified the COLOMBIAN-VENEZUELAN CONVENTION made in Bogota on November 3, 1916. Authority has been given the Colombian minister in Caracas to conclude the exchange of ratifications at the earliest date possible.—THE AMERICAN SPORT CLUB has been organized in Bogota for the purpose of popularizing football, baseball,

tennis, and other athletic outdoor games.—French merchants and representatives of French firms in the national capital have founded a FRENCH BOARD OF TRADE in Bogota, one of the chief objects of which is to make known the exceptional advantages which the Republic of Colombia offers to the farmer, the merchant, and the financier, and the desire of the Colombian Government to foster the development of agriculture, industry, and commerce in the Republic.—A colony of 200 families of AGRICULTURISTS has just been founded in Caqueta at a place having a good climate, a fertile soil, and adequate transportation facilities for the needs of the colonists.—The department of public works has formally delivered to the English railway company at Girardot the RAILWAY HOTEL building at a place known as "Juntas de Apulo," together with its equipment and annexes, and the company will soon open same to the public and maintain it in operation during the hot season of the year as a summer resort.—Under the title of Administrative Reform in Colombia (Reform-Administrativa en Colombia), the distinguished Colombian writer, Dr. Antonio José Uribe, has published a work treating of matters relating to education, finance, industries, transportation, etc.—Press reports state that a CHILEAN COMMISSION OF AGRICULTURAL EXPERTS will soon arrive in the Republic. This commission proposes to give special attention to the study of Colombian products which can be commercially exchanged for Chilean commodities, thereby encouraging the development of commerce between the two countries.—According to *El Comercio*, of Barranquilla, a Colombian agronomist of wide knowledge and experience has been officially commissioned by the English Government to collect data showing the area of private GRAZING LANDS, both wild and cultivated, available in the Sinu and San Jorge River basins as well as the extent of Government grazing lands in the regions referred to.—On June 9 last the National Government celebrated the HUNDREDTH ANNIVERSARY of General Julio Arboleda, a noted Colombian statesman, warrior, and writer, by placing a bust of said general, presented to the Nation by the municipality of Popayan, in Independence Square in the city of Bogota.—The cabinet has approved a contract made by the consul of Colombia in New York with Peer Martin Lund, under the terms of which the latter agrees to go to Bogota to teach RADIOGRAPHY for two years in the medical school. A hall has been especially equipped for this purpose in the San Juan de Dios Hospital of the national capital.—A recent executive decree places the NATIONAL METEOROLOGICAL SERVICE under the department of public instruction. The service referred to was established under a law enacted in 1917.



COSTA RICA

The exports of "panela" or RAW SUGAR from Costa Rica in 1916 consisted of 1,759.5 metric tons, a large part of which was consigned to commission houses in New York City, one firm having received 302 metric tons. Sugar cane grows luxuriantly in almost every part of the Republic, and is cultivated on a large scale in the Atlantic Coast region. Much of the raw sugar of Costa Rica is refined in the country, but the surplus is shipped to the refineries of foreign countries. Sugar-cane growing and the refining of sugar has been, during the last few years, one of the most promising and prosperous industries of the Republic. The high prices of sugar, both at home and abroad, is encouraging sugar-cane growers to plant more cane, and should the conditions of the market remain as they now are, it is predicted that Costa Rica will greatly increase the production and export of this product within the next few years.—Preliminary steps have been taken looking to the establishment of an INTERNATIONAL INFORMATION BUREAU in the capital of Costa Rica with the object of promoting and encouraging closer commercial and literary relations between the countries of Central America, the United States, and the Latin American Republics. Other Latin American countries, such, for instance, as Venezuela, Colombia, Argentina, Uruguay, Chile, Cuba, and some others, have in operation public or private offices of this kind. The Costa Rican Bureau is to be founded along the same lines as those of the countries mentioned, and will include among its activities matters relating to statistics, geography, commerce, industry, agriculture, letters, teaching, newspaper work, art, etc.—The NEW CONSTITUTION of the Republic of Costa Rica has been formulated and submitted to the consideration of the National Congress. A six-year term is provided for President and Vice President, these officers to be chosen by a college of electors. The clause giving women the right to vote was rejected after a spirited debate. The constitution prescribes that judges of the supreme court shall be appointed for life, prohibits capital punishment, and establishes a department of public health.—Estimates recently made by the director of agriculture of Costa Rica give 1,093 hectares (2,700 acres) as the approximate area planted to TOBACCO in the Republic, with a yield in 1916 of about 900,000 pounds. The planting season is from August to September, while the stripping season begins in January.—The American consul at San Jose has collected detailed information from the manager of the farms of the United Fruit Co. in Costa Rica concerning CACAO CULTIVATION in that country. During the last few years the custom of planting abandoned banana

plantations to cacao has become quite general throughout the Republic. In such cases no clearing has to be made, but shade has to be provided for the cacao plants. Most of the soil of the Atlantic Coast region of Costa Rica is suitable to cacao cultivation with the exception of heavy clays, sandy and gravelly deposits, and swamps. Ideal soils for cacao culture are rich alluvial lands, and especially those containing a sufficient quantity of clay to give the soil a heavier body than is found in the average loams. Generally speaking, where bananas have grown well for four or five years the land is adapted to cacao cultivation. In all cases, if good results are to be obtained, proper drainage, either natural or artificial must be provided. The variety of cacao known locally as "sangre de toro" (oxblood), and which originally came from Venezuela, gives the best results, although a number of other varieties are successfully grown throughout the Republic.



CUBA

A bill has been introduced into the Congress of Cuba providing for the holding of a SPANISH ART EXPOSITION in November, 1919.—The Cuban press is advocating the cultivation of HENEQUEN on a large scale in the western part of the Island. It is contended that climatic and soil conditions there are exceedingly favorable to the growth of the henequen fiber producing plant, and experienced persons who have investigated the matter believe that as good results can be obtained in Cuba as are now obtainable in Yucatan. Recently Mexicans from the henequen-producing districts of Yucatan have purchased large tracts of land in Cuba and propose to engage in this industry on a large scale. The life of the henequen plant is from 15 to 20 years and the average yield in Cuba is about 70 pounds of fiber to every 1,000 leaves, as compared with 50 pounds per thousand in Yucatan. At the Buffalo International Exposition sisal made from henequen grown in Cuba won the gold medal in competition with Yucatan and other countries.—The Cuban Congress has been asked to appropriate \$400,000 for the construction of SEWERS in Marianao, a suburb of Habana.—Steps have been taken looking to the publication of a HISTORICAL GEOGRAPHY of the Isle of Pines for use in schools and for other educational purposes.—The President of Cuba has recommended that Congress enact a law withdrawing the restrictions on immigration, except those in force by the department of sanitation and the one prohibiting minors under 14 years of age from entering the country unaccompanied by parents or other responsible persons.

The object of the proposed law is to allow the entry of laborers needed for agricultural and industrial purposes.—A bill has been introduced into Congress authorizing the President of the Republic to expend \$2,950,000 in STREET IMPROVEMENTS and water works for the city of Camaguey.—During the fiscal year ending June 30, 1917, SHIPS to the number of 2,374 entered the port of Habana. This was 200 more than during the previous fiscal year.—The COAL dealers of the Republic have chartered sailing vessels to bring fuel from the United States and thereby prevent a shortage of this commodity.—The National Bank of Cuba has declared a semiannual DIVIDEND of 5 per cent. The same institution has placed \$10,000 to the credit of the pension fund set aside for its employees.—A bill providing an appropriation of \$100,000 to construct a public HIGHWAY from Manzanillo to Real de Vicana, via Jibacoa, has been introduced in Congress.—The President has appointed Dr. Jose Antolin del Cueto y Pazos CHIEF JUSTICE of the Cuban Supreme Court, in place of Dr. Pichardo, retired.—The municipal authorities have ordered STREET SIGNS placed on the corners of streets in the city of Habana and corrections made where houses are wrongly numbered.—A concession has been granted the Sagua Railroad Dock Co. to construct three WAREHOUSES in accordance with plans submitted to the Government on September 15, 1915.—A scientific commission of six Cuban physicians has been appointed to investigate the Angel Garcia LEPROSY CURE.—Press reports state that one of the petroleum wells near Habana has a steady flow of OIL in excess of 200 barrels a day.—“La Discusión,” a daily newspaper of Habana, has arranged with the Associated Press in the United States for an afternoon LEASED WIRE SERVICE.—A bill has been introduced into Congress calling for an appropriation of \$325,000 to purchase SURGICAL INSTRUMENTS and to make repairs on the hospitals of Santiago, Camaguey, Santa Clara, Cardenas, and Guantanamo.—The BUDGET of the Cuban Government for 1917-18 estimates the receipts at \$46,679,942, and the expenditures at \$36,337,686.



According to an article published in the “Listin Diario,” a daily newspaper of the city of Santo Domingo, a sufficient quantity of WHEAT could be grown in the Republic to abundantly supply the 700,000 inhabitants of the country with wheat flour, since the mountain lands of the country, having an elevation of more than 800 meters (2,625 feet), are ideally adapted to the growing of this and other

cereals. The Dominican Republic has land, climate, and rainfall most suitable to wheat cultivation on a large scale, and the only thing which seems to be wanting is transportation facilities. The highways and trails leading into the mountainous regions of the Republic are not good and would have to be increased in number, improved, and extended in order to open up the wheat belt of the country. At present the Dominican Republic imports about \$1,000,000 worth of wheat flour and other breadstuffs, which, it is contended, could all be eliminated by the proper cultivation of the soil of the tablelands and the encouragement of the milling industry in the Republic.—Within a short time, according to press reports, an automobile ROAD from Villa Duarte to La Caleta will be completed. The department of public works of the Government of the Dominican Republic is said to be considering the advisability of calling for new bids for the construction of a highway from Santo Domingo to San Isidro, and possibly from the latter place to San Pedro de Macoris. A macadam road is now being built from San Pedro de Macoris to Hato Mayor, a distance of 12 kilometers, and another highway of about the same length is under construction between Santiago and San Jose de las Minas. Plans have also been made to build a 10 kilometer road from Azua to San Juan.—At the present time there are nine DOMINICAN STUDENTS holding Government scholarships studying in Paris, and three Dominicans who are pursuing educational courses there on their own account. These young men are devoting their attention to medicine, engineering, music, and other arts and sciences.—The city council of San Francisco de Macoris has petitioned the military government to authorize the negotiation of a LOAN of \$250,000, repayment to be guaranteed by a tax of 20 per cent on the value of commodities brought into the municipality and by a tax of one-half per cent upon the taxable property of the city of San Francisco de Macoris. If the loan is made the proceeds of same are to be expended on the following works: Aqueduct, electric light and power plant, sewers, cemetery, school buildings, etc.—The town of Bani has also petitioned the military government for permission to borrow \$16,000 to be used in installing an electric light and power plant, the construction of a market, the boring of an artesian well, park development, and church repairs.—The recent POSTAL CONVENTION, concluded between the United States and the Dominican Republic and effective since June 15 last, makes the interior postal rates on first-class matter in force in the two countries at the time mentioned, applicable to the foreign correspondence between the two Republics.—According to statistics published by the Dominican press, the FREIGHT TRAFFIC of the Central Dominican Railway in February, March, April, and May of the present year amounted to 11,969 metric tons.—The depart-

ment of agriculture of the Government of the Dominican Republic has provided a traveling AGRICULTURAL INSTRUCTOR to visit the farming communities of the country and to recommend means and measures for obtaining more abundant yields of staple crops.—A company representing American interests has been organized to manufacture SUGAR in the Republic. W. L. Bass, of San Pedro de Macoris, is one of the prime movers in the undertaking.



ECUADOR

The Ecuadorian members of the MIXED BOUNDARY COMMISSION appointed by the President of the Republic in accordance with the provisions of Article III of the delimitation treaty between Ecuador and Colombia, are Dr. N. Clemente Ponce, Ignacio Fernandez, and Gualberto Perez. This commission is authorized to select at the proper time such technical and clerical employees as may be considered necessary in establishing and fixing the boundary line between the two countries in cooperation with the Colombian commission.—Romanet & Co. of Guayaquil have petitioned the department of the interior of the Government of Ecuador for permission to import machinery for the installation of a factory for the manufacture of AMMUNITION for sportsmen.—An oil shaft drilled at Ancon, Ecuador, to a depth of 2,000 feet encountered a flow of PETROLEUM at 1,700 feet. An analysis of the oil showed that 30 per cent was suitable for the manufacture of gasoline. This shaft was later abandoned because of financial difficulties, but experts believe that it could be easily reopened and profitably exploited. The Santa Elene oil zone comprises, approximately, 600 square miles, extending from Salinas, the most western part of the Republic, to the village of San Vicente. Ballenita, 90 miles north of Guayaquil and 740 miles from Panama, is an excellent port near petroleum wells which produce from two to ten barrels of oil per day, practically all of which is used as fuel by local enterprises.—By a recently promulgated decree the EXPORTATION OF GOLD from the country has been prohibited, and a law has been enacted which authorizes banks of issue to cease redeeming their notes in gold coin. The exchange value of the sucre has declined somewhat and is now approximately \$0.3846.—Advices from the national capital are to the effect that arrangements have been made to convene a CONGRESS OF WORKMEN in Quito on October 9, 1920, under the auspices of the workmen's association.—In June last work was commenced on the new CIVILIAN HOSPITAL BUILDING in Quito, and will be pushed

forward to completion as early as possible.—A recent executive decree authorizes the chairman of the board of improvements and public works of Azusay to negotiate a LOAN with the bank of that province for a sum sufficient to complete the Descanso bridge of the Cuenca Railway.—In accordance with the recommendation of the department of telegraphs of the Government of Ecuador, the Government of Venezuela has been requested to cooperate for one year in a FREE TELEGRAPHIC SERVICE between the Republics of South America upon the bases adopted by the Bolivian Congress of Caracas.—On June 4 last the remains of ANTONIO JOSÉ DE SUCRE, the hero of Ayacucho, were removed to All Souls Chapel of the Metropolitan Church in Quito.—An executive decree establishes a NEW RURAL PARISH under the name of "Luis Cordero" at San Marcos ranch in the Canton of Azogues.—The National Government has added to the curriculum of the military school in Quito a special COURSE OF TOPOGRAPHY.—The Congress of Ecuador has ratified a TREATY with the United States for the exchange of postal MONEY ORDERS.—In conformity with a legislative decree of October 8, 1916, ordering the construction of the CHONE TO QUITO RAILWAY, via Santo Domingo de los Colorados, the President has designated the amount available for the cost of studying and reporting upon the preliminary survey.



GUATEMALA

A report of the secretary of the department of public instruction to the National Congress during the regular sessions of that body in 1917, shows that in 1916 there were 1,942 primary SCHOOLS in the Republic with an enrollment of 67,152 pupils, as compared with 1,899 schools in 1915 having 65,904 matriculates. During the past year there were in operation in the Republic the following primary schools: Eighteen kindergarten, 457 mixed, 522 boys, 550 girls, 6 practical for girls, 20 practical for boys, 49 night for workmen, 3 arts and crafts, and 317 rural. During the same year there were 21 schools engaged in the work of higher education. President Manuel Estrada Cabrera in a message to Congress on March 15 last stated that he hoped to aid most effectively in promoting education in the Republic, and that he would allow nothing to swerve him from his course. He advocated in the strongest terms the education of women, because, he said, "to educate and instruct the mothers of the land is to make good and loyal citizens."—President Manuel Estrada Cabrera has been DECORATED by the Italian Government with the Great

Cross of the Crown of Italy as a manifestation by the Italian Government of its appreciation of the good will and friendliness of the Guatemalan President toward the people and Government of Italy shown by the conclusion recently of two important treaties between the two Governments, namely, an arbitration treaty and a treaty of commerce.—In 1915 the SALT production of Guatemala amounted to 8,740,000 kilos, a quantity insufficient to meet the needs of the country during that year, since the imports of this commodity in the year referred to aggregated 917,000 kilos. Most of the salt manufactured in Guatemala is made on the Pacific coast at the ports of Champerico and San José by evaporation of sea water. An American company has a large salt plant at the latter place. This company makes salt by evaporating salt water by exposure to the rays of the sun, instead of boiling it as is the custom in some of the plants. The annual salt consumption of Guatemala, in round numbers, according to an estimate of the American consul at Guatemala City, is 10,000,000 kilos (kilo = 2.2046 pounds).—The Government of Guatemala is encouraging the agriculturists of the country in every way possible to increase their acreage of BEANS, CORN, rice, and wheat. Partial reports from different parts of the Republic show large increases in the plantings of these staple products, especially corn and beans, which are the most important food articles of the country, the most productive, and the most extensively grown.—Enrique Weissenberg has petitioned the department of fomento for a 10-year concession authorizing the enlargement of his COTTON AND WOOLEN MILLS in Quezaltenango, the use of water for the production of motive power, and the exemption of factory buildings and other property from taxation during the period referred to.—The Government of Guatemala has been petitioned to sanction a contract between the City of Guatemala and the Occidental Bank, under the terms of which the latter agrees to lend to the former \$1,200,000, American gold, to be used in liquidating the municipal debt and in the construction of a MUNICIPAL BUILDING.



The marine section of the department of agriculture of the Government of Haiti advises, for the benefit of commerce in general, that the former HAITIAN CRUISER *Nord Alexis*, recently sold by the National Government to private parties, is to be operated by its new owners under the Danish flag.—The consul of Haiti in Havre has just reported to the department of foreign relations of the

Haitian Government that the following HAITIAN PRODUCTS were received in the port referred to during 1916: 125,124 sacks of coffee; 21,309 pounds of hides, dry; 308,192 pounds of honey; 104,582 pounds of cotton; 852,604 pounds of cacao; 11,827,118 pounds of Campeche wood (dyewood); 11,862 boxes of oranges; 3,953 pounds of old copper; 483,958 pounds of cotton seed; 2,823 pounds of wax; and 2,578 pounds of horns.—In May last the EXPENSE BUDGET of the National Administration amounted to 390,114 gourdes, and \$107,114, American gold.—A new edition of the CODE OF CIVIL PROCEDURE, with annotations by Mr. J. N. Léger, has just been published in Port au Prince. The new edition, which contains 300 pages, has both the old and amended laws and is a work of merit and importance.—A new daily newspaper, under the name of "La Liberté," has just made its appearance in Cayes under the management of J. V. Delerme.—Public subscriptions are being taken in Port au Prince to raise funds for the construction and equipment in the most modern and scientific manner of an OPERATING HALL for use in the national capital, in connection with the Saint Francis de Sales Hospital.—Press reports state that an AGRICULTURAL SOCIETY has just been organized in Port au Prince for the purpose of developing agriculture and industrial enterprises. The work of the organization is divided into three sections, namely: Instruction, legislation, and agricultural credit; cultivation in general; and agricultural industry and rural development. The by-laws of the society admit natives and foreigners to membership.—Albert Blanchet, a Haitian lawyer, has been appointed SECRETARY OF THE LEGATION of Haiti in the United States to take the place of M. Maurice Menos, resigned.—"Le Matin," a daily newspaper of Port au Prince, in its edition of June 6, 1917, publishes the proposed CONSTITUTION of the Haitian Republic drafted by Doyen Nau.—In order to render FOREIGN EXCHANGE stable throughout the Republic, the general customs office of the Government will sell United States gold coin at the rate of 5 gourdes 15 centimes per dollar.—The HAITIAN LAW ANNUAL has just been published in Port au Prince. The work contains the laws, orders, and decrees of the year 1916, together with The Hague conventions.—The President has authorized the HAITIAN WEST INDIA CO. to do business in the Republic, and has approved the by-laws of that corporation.—The EXPENSES OF THE ADMINISTRATION in June last were 384,762 gourdes, national coin, and \$106,947 American gold.—"Le Matin," of Port au Prince, in its issue of June 9, publishes the full text of the report submitted to the National Congress by the committee appointed to recommend the adoption of a NEW CONSTITUTION.

HONDURAS

In accordance with the provisions of an executive decree issued on May 1, 1912, ARBOR DAY was celebrated throughout the Republic on May 15 last. The day furnished the occasion for the singing of patriotic hymns, and the planting of trees by the representatives of schools and other organizations.—The National Government recently granted a number of franchises and privileges for the installation of NEW FACTORIES in the Republic, to wit: A gaseous water manufacturing plant in the town of Pespire, and a soap and candle factory in San Pedro Sula. Both these factories are to be erected, equipped, and opened for business within 12 months.—The National Congress has enacted a law imposing a tax of 6 centavos per bottle of aguardiente sold, and 1.50 pesos on every eight arrobas (arroba = 25 lbs.) of DISTILLED LIQUORS and sparkling wines imported. The proceeds of this tax is to be used in installing electric or other lights, and for the construction of sewers in the capitals of the departments and districts.—Barometric measurements just taken in Morazán Park in the city of Tegucigalpa, capital of the Republic, show the altitude of the metropolis to be 3,100 feet above the level of the sea. It is this elevation and the lay of the mountains in the vicinity which give to the national capital one of the finest climates in the world, free from extremes of heat and cold, and a wealth of vegetation as luxuriant and beautiful, perhaps, as any in Central America.—A Mexican navigation company has about completed arrangements with the department of communications of the Mexican Republic for the establishment of a line of STEAMERS to ply between the Port of Progreso, State of Yucatan, Mexico, and Puerto Cortes, Honduras, with stops at the island of Cozumel and Payo Obispo, Mexico; Belize, British Honduras; and Puerto Barrios, Guatemala.—A STUDENTS' LEAGUE, composed of graduates of scientific and literary courses of the principal institutions of learning of the Republic, has been organized in Tegucigalpa.—Under the title "El Ahorro Hondureño" (The Honduran Savings) a national stock company has been organized in Tegucigalpa to encourage SAVINGS AND INSURANCE against sickness and accidents.—Commercial employees of the city of Amapala have taken preliminary steps toward the founding of a MUTUAL AID SOCIETY with branches in the principal industrial and commercial centers of the country.—Ulises Meza Calix, a Honduran educator, has just compiled and published a GEOGRAPHY OF HONDURAS for use as a textbook in the schools of the Republic.—According to "The Reporter," a bilingual weekly publication of La Ceiba, business in that port has been very prosperous since the Government of Honduras

began the construction of the NEW CUSTOMHOUSE. Freight traffic has also notably increased, large fruit shipments being made by the Vaccaro Co. two or three times a week.—The Government is having a VESSEL built at the Oak Ridge shipyards on the Island of Roatan. The contract price is \$8,500 gold.—The inhabitants of Roatan Island, near La Ceiba, have taken preliminary steps toward the establishment of a TELEPHONE LINE.—Prof. Carlos Izquierre has arranged to publish a NEWSPAPER at Juticalpa. Under the name of "Atlántida" Dr. Salvador Lejanza and the poet Hernán Rosales have founded a newspaper at La Ceiba.



Prospecting done under orders of the director general of the National Railways in the newly discovered COAL fields at Honey, State of Hidalgo, indicate that there is an abundance of coal in the deposits. The mines are only 6 miles from the railroad, and preparations have been made to develop them on a large scale.—The GOVERNMENT PRINTING OFFICE in the City of Mexico is to be equipped with modern machinery and enlarged sufficiently to enable all Government work to be done therein.—A comprehensive plan has been prepared by the secretary of fomento (promotion) looking to the COLONIZATION of Cedros Island off the west coast of Mexico. The island of Guadeloupe in the Pacific Ocean near Lower California is to be utilized for a military colony, and is now being explored for the purpose of determining the best plan to be followed.—The East OIL Co., a foreign corporation, has been authorized to lay an oil pipe line from their holdings to deep water in the Tampico petroleum district.—Early in June last the NATIONAL PAWNSHOP in the City of Mexico, known as the Monte de Piedad, and which conducts its business under Government supervision, reopened its doors after having been closed for a long time.—The President of the Republic has instructed customs officials to facilitate in every way possible the RETURN OF MEXICANS who wish to repatriate themselves. Such persons will be allowed to import, free of duty, household goods, clothing, tradesmen's tools, agricultural implements and machinery, domestic animals, and other supplies for their personal use.—The department of public works contemplates enlarging or improving the GRAND CANAL which drains the Valley of Mexico in such a way as to make it adequate to carry off flood waters during the rainy season.—The municipal authorities of the city of Merida, Yucatan, have resolved to purchase vacant lands and to utilize same for gardens and as sites for the erec-

tion of COTTAGES FOR THE POOR, who will be charged only a nominal rent therefor.—A commission has been appointed to examine the proposed concession for the construction of a RAILWAY between San Luis Potosi and Guadalajara. It is planned to build the line so as to give direct communication with the port of Vera Cruz.—A DEPARTMENT OF PHOTOGRAVURE has been added to the National School of Arts and Sciences in Merida, Yucatan.—The Guayule RUBBER FACTORY at Cedral, State of San Luis Potosi, has again commenced operations. The gathering and treating of guayule at this plant gives employment to hundreds of persons.—The department of fomento reports that there are 3,000,000 hectares of PUBLIC LANDS in the Territory of Quintana Roo which are open to exploitation. Chicle, rubber, and hardwoods are the principal products of the forests of that Territory.—Labor from Cuba and Spain is being imported into Yucatan to assist in the harvesting of the HENEQUEN crop.—The STREET RAILWAYS COMPANY of Mexico City has increased the wages of its employees 20 per cent.—According to press reports arrangements have been completed for the installation of a large factory for the manufacture of ARMS AND AMMUNITION at Juanacatlan, State of Jalisco, where a large hydroelectric plant exists.—Application has been made to the department of fomento for permission to propagate the PEARL OYSTER in the Gulf of California, the petitioner pledging himself to plant more than half a million shells annually.



NICARAGUA

The consul general of Nicaragua in New Orleans has advised the press that a large cattle company of that city offers to invest money for the construction of a HIGHWAY between the Atlantic coast district of Nicaragua and the interior of the Republic. Preliminary steps have also been taken for the establishment of an abattoir at Rama City, equipped with a refrigerating plant. It is proposed to export fresh meats from Nicaragua and to utilize the abandoned grazing lands of the coast in fattening cattle for the export trade. The Government is cooperating in stocking the country with cattle, and a bill was recently introduced into the National Congress regulating the exportation of cattle on the hoof and discouraging the same by placing a tax of 2 cordobas (\$2) a head on cattle exported and prohibiting the sending of female cattle out of the country, as well as of males under 3 years old.—The Eden mine near Prinsapolka recently forwarded to Bluefields a shipment of 1,161 ounces of fine GOLD, valued at over \$23,000.—The Bluefields American

states that during the past year a number of geologists have visited the Atlantic coast section of the country in search of OIL, and that advices have been received from Managua to the effect that a large company has been organized in the federal capital to work the recently discovered oil fields of the Atlantic coast section of the Republic.—A MEDICAL ASSOCIATION of the Atlantic coast of Nicaragua has been organized to promote interest in the study of tropical medicine and to cooperate with the national medical faculty at Leon in enforcing the laws of the country relating to the practice of medicine. The association will be duly incorporated. Registered physicians in Nicaragua in good standing are to be made honorary members of the local association and will be requested to cooperate with the local board. The association will endeavor to suppress illegal medical and pharmaceutical practice.—According to a recent report of the deputy collector of customs of Nicaragua, the INTERNAL DEBT of that country at the present time is about \$11,000,000, of which \$6,300,000 is held by Nicaraguans and the remainder by foreigners. The commission of public credit, established in accordance with the law of February 14, 1917, will examine, classify, and consolidate this debt by using the unexpended moneys remaining from the purchase of the canal option rights under the treaty with the United States and a reasonable amount of internal bonds. This commission will also make agreements with creditors when this method is necessary and is for the mutual advantage of both parties.—The Government of Nicaragua has given permission to the Eden Mining Co. to establish a high-power WIRELESS telegraph station at its mines in the Pis-Pis district. The plant is to be ready for service on or before the end of August, 1917.—The contract for the exploitation of OIL on a large scale throughout the Republic, made by the Government of Nicaragua with Lincoln Valentine, an American capitalist, has been submitted to the Nicaraguan Congress for approval, modification, or rejection.—In 1916 the EXPORTS OF LUMBER from Nicaragua consisted of 3,000,000 feet from the Pacific and 8,600,000 feet from the Atlantic coast, according to statistics published by El Heraldo, a newspaper of Bluefields. These exports were made up of cedar, mahogany, and other cabinet woods.



A decree has been issued regulating the dock service of the MARKET WHARF in the city of Panama. Sailing and steam vessels which anchor at the wharf are required to use their own cables and are only entitled to receive assistance of the company when the vessels

are in danger from storm or other causes. The loading and unloading of vessels is to be done by employees of the company. Unloading must be accomplished within 48 hours after docking, and if a longer time is required a storage charge of 2.5 centavos per package for each 24 hours additional will be collected. Persons who have acquired space at the wharf by a special concession of the Government are entitled to have the employees of the wharf move their cargo to said space without charge, but the handling of the cargo thereafter will be for account of the owners of the same.—The Panama Morning Journal states that among the recent improvements made in the Canal Zone are many miles of surfaced and ASPHALT-CONCRETE ROADS, some of which rank with the best in the world and make automobiling delightful in that section the year round. There is no road directly across the Isthmus, but automobiles run on the Pacific end of the Canal Zone as far to the northwest as the Chagres River, as well as in the city of Panama, the Sabanas district in the direction of the ruins of Old Panama and the Juan Diaz River, the combined length of these roads, including streets, aggregates 85 miles. Another automobile section is at the Atlantic or northern end of the Canal, including the cities of Colon and Cristobal and the highway to Gatun, or a total length of 17 miles. The third area is on the west side of the Canal and includes the villages of Culebra, Empire and Las Cascadas, as well as a road from Empire to the Canal Zone boundary, a combined distance of 18 miles. There are about 600 automobiles licensed in the Republic of Panama and the Canal Zone. The speed limit is 25 miles an hour on straight roads and 12 miles on city or village streets, or when approaching another vehicle, or traveling over curves, forks, or crossroads. Chauffeurs are required to carry identification cards.—Recent changes in the commercial code of Panama require FOREIGN COMPANIES doing business in the Republic to have duly authorized representatives stationed there. Such companies must also invest not less than \$100,000 in real property, or make a bank guarantee deposit of not less than \$50,000. New banks can not be started without the permission of the President, and all banks are required to maintain on hand in cash not less than 20 per cent of the amount of their deposits. The law requires commercial concerns to keep their books and conduct their correspondence in Spanish. Agricultural banks are exempted from the provisions of this law concerning the establishment of new banks.—An executive decree of June 5 prescribes that on and after October 1, 1917, the following NATIONAL CODES, approved by law No. 2 in 1916, will become operative: The Civil, the Commercial, the Penal, the Judicial, the Fiscal, and the Mining codes.—The Congress of Panama has approved a contract for the construction of a RAILWAY on the Atlantic coast from the mouth of the Chagres River to the city of Almirante.—According

to press reports the Sinclair Oil Corporation, an American enterprise, has arranged with the Government to prospect for and exploit PETROLEUM deposits in Panama.—A charter has been granted to the SHRINERS of Panama to build a temple on the Pacific side of the Isthmus, probably at Ancon near the boundary line of the city of Panama.—A recent executive decree provides for the appointment of a commission to study and recommend means for increasing the production, distribution, and conservation of FOOD SUBSTANCES in Panama and the Canal Zone.—The foreign trade of Panama for 1916 was: Imports, \$9,197,454; exports, \$5,506,725; total, \$14,704,179. This represents a total increase over the preceding year of \$2,244,224—in imports, \$160,255, and in exports, \$2,083,970. The figure of exports in 1916 was the largest for the last 10 years, exceeding the figure for 1913 by over \$120,000. Of Panaman imports in 1916 over 72 per cent were from the United States, and of exports, 98 per cent were to the United States.



PARAGUAY

Recent investigations published in *La Tribuna*, daily newspaper of Asuncion, show that WHEAT grows luxuriantly in the hill regions of the Republic, and especially in the neighborhood of Villarrica, where the rainfall and climatic conditions seem to be most appropriate for the cultivation of this cereal. A virgin field for the growing of wheat and other cereals is found in the Paraguayan Chaco, and particularly along the boundaries of the Bolivian and Argentine frontiers at high elevations.—The Mercantile BANK of Paraguay, which was founded in 1890 at Asuncion, operates branches at Concepcion, Encarnacion, Paraguari, Pilar, and Villarrica. It has a paid-up capital of 25,000,000 pesos, currency, and a reserve fund of 12,500,000 pesos, currency. This bank pays 3 per cent per annum on current accounts and 7 per cent on savings accounts. The Bank of the Republic, with headquarters at Asuncion and a branch bank at Encarnacion, has a capital of 20,000,000 pesos, currency, as has also the Bank of Spain and Paraguay in Asuncion.—According to a recent report of the Paraguayan Sugar Association the refining of SUGAR was commenced in the Republic more than 20 years ago. The sugar-cane fields have at various times suffered from drought in summer and from cold in winter. The 1916 crop was less than that of 1915, and the prospects for a large production of sugar cane in 1917 are not very flattering owing to damages caused by dry weather and injury by locusts.—The official organ of the Board of Trade at Asuncion is authority for the statement that a company has been

organized in the national capital having at its disposal \$500,000 gold to invest in the exploitation of the KAOLIN DEPOSITS at Tobati. From 1820 to 1830 these deposits were extensively used in the manufacture of pottery for local consumption, and recently considerable activity has been shown in producing this class of merchandise at Ita to supply the demand for articles of this kind which were formerly imported from Europe.—According to press reports the Ybycui IRON FOUNDRY has been taken over by a syndicate and will soon commence operations. Iron ores are said to exist in abundance not only at Ybycui but also throughout a large zone of the Upper Parana River, so that large quantities of raw material are available for the operation of the plant.—On May 14, 1917, the Republic of Paraguay celebrated the one hundred and sixth ANNIVERSARY of the initial movement of its independence. On that date in 1811 Pedro Juan Caballero and his followers took possession of the barracks at Asuncion, thereby starting the movement which resulted in the throwing off of the yoke of Spain and in political independence.—The Departments of the Republic of Paraguay which are specially noted for the cultivation of RICE are Villeta, Ita, Itagua, and Guarambare. The annual production of this cereal is, in round numbers, about 1,000,000 kilos, most of which comes from the Departments of Villeta and Guarambare. Recent experiments have shown that parts of the Paraguayan Chaco are particularly well suited to the growing of rice, and its production in that section of the country is yearly increasing.—The exports of CATTLE from Paraguay in 1914, according to statistics published in *El Liberal*, a daily paper of Asuncion, were 24,385 head, as compared with 29,509 head and 28,455 head in 1915 and 1916, respectively.—The new PACKING PLANT at Puerto Frigorifico, on the Paraguay River near Asuncion, is a well-equipped establishment now in active operation under American management. The plant occupies the site of the old sugar factory at Ceballos-cue and is about an hour's ride in motor boat down the Paraguay River from Asuncion.—The Typographic BENEVOLENT SOCIETY of Paraguay, with headquarters in the national capital, has elected the following officers: G. Recalde, president; R. Ayala, vice president; E. R. Melgarejo, secretary; and E. Alvarenga, treasurer.



SHEEP RAISING IN PERU is confined chiefly to the Cajamarca, Junin, Ayacucho, Anta, Acomayo, Canas, Cuzco, Chumbivilcas, Arequipa, La Libertad, Ancachs, and Puno districts, where large herds graze on the nutritious grasses of the Peruvian plains. The

sheep of Peru are principally grown for their wool. An English sheep ranch 3 leagues west of Junin has an altitude of 14,000 feet and extends over an area of 54 square miles. Sheep from this ranch yield from 2 to 6 pounds of wool per head annually, according to the breed. The sheep industry of the Republic, which is only in its infancy, could be developed on a large scale.—The London & Pacific Petroleum Co. has been authorized to unload and deposit at Talara for reshipment to Chile 10,000 tons of PETROLEUM from California without the payment of duties. Foreign interests have recently filed on 600 claims of petroleum lands situated in the Nazca district. An American geologist from Pennsylvania is expected to soon examine and report upon these claims.—President Jose Pardo has issued a decree convoking CONGRESS in regular session on July 28, 1917.—The TELEGRAPH SYSTEMS of Peru, Ecuador, Colombia, and Bolivia having been united by mutual agreement, the department of telegraphs of the Department of Chile has decided to connect its lines with those of Peru, and through the latter country with those of the countries referred to.—FISHING WITH DYNAMITE has been prohibited in the waters of the Republic of Peru by an executive decree which imposes heavy penalties for infringements of the law.—The Royal Spanish Academy has appointed the following new CORRESPONDING MEMBERS in Peru: Alejandro Deusta, Javier Prado, José de la Riva Agüero, Victor Andrés Belaunde, Oscar Miró Quesada, José Marfa de la Jara, Juan Bautista de Lavalle, and José Gálvez.—A plan for the construction of an AUTOMOBILE ROAD 100 kilometers long and 6 meters wide from Cerro de Pasco to Huánuco is under consideration. Estimates have been submitted showing that 200 laborers could complete this road within a year. The time at present required to travel between the places mentioned is three days. The finished road would enable an automobile to journey over the same in a few hours.—In 1916 the EXPORTS OF COTTON from Peru aggregated 24,603 metric tons, while the exports of cotton seed were 47,135 tons. The exports of these articles were larger last year than ever before in the history of the country. The United States took some of this cotton, but Great Britain was the principal purchaser. The variety of cotton grown in the Department of Piura, and known to the trade as "Aspero," has a long rough fiber and is used in making imitations of woolen cloth. In 1916 there were about 4,000 tons of this variety harvested. The area planted to cotton in Peru is 55,635 hectares (hectare = 2.47104 acres), which produced an average yield of 1.39 tons per hectare. The exports of Peruvian cotton, expressed in metric tons, were in 1909, 21,639; in 1910, 14,106; in 1911, 15,887; in 1912, 19,230; in 1914, 22,933; in 1915, 21,124; and in 1916, 24,603.—The STOCK AND INDUSTRIAL EXPOSITION, which opened in

Arequipa on July 28 last, will close on August 25, 1917. The exposition is divided into three principal divisions—namely, agricultural, stock, and industrial. Arrangements have been made for fine displays of cereals, as well as of potatoes, vegetables, and other food products.—The FIRST NATIONAL MINING CONGRESS of Peru opened its sessions in Lima on July 30, 1917.—Companies established in Peru under contracts made abroad have been given until September 30, 1917, in which to pay REGISTRATION TAXES without incurring the penalties prescribed by law.



The municipal authorities of the city of San Salvador have opened a NIGHT SCHOOL for females in the national capital. The school was founded with the special object of giving instruction to girls and women who work during the day. No tuition is charged. In addition to the usual curriculum in schools of this kind, special branches will be taught, with the object of training pupils for the better performance of household duties, such as cooking, sewing, preserving of fruits, etc.—A new ICE FACTORY has been established at San Vicente, and preparations have been made to furnish the people of that town with an abundant supply of pure ice. San Vicente now has two ice factories in operation, and is able to supply the needs of the municipality and of the surrounding country.—The PAVING of the principal streets of the city of San Salvador and the laying of the water mains is progressing rapidly. The work referred to is being done by an English syndicate.—The department of agriculture of the Government of Salvador has sent a circular to the governors of the Departments and mayors of the principal towns requesting them to urgently recommend the planting of larger quantities of castor beans, peanuts, flax, sunflowers, cotton, mustard, and other oil-producing plants, inasmuch as these products will find a ready market in the OIL MANUFACTURING and refining plant recently established in the city of San Salvador under a Government concession. The factory proposes to give special attention to the manufacture of vegetable oils for food and medicinal purposes, and will need large quantities of oleaginous seeds.—One of the features of the celebration of ARBOR DAY in the city of Santa Ana on May 3 last was the planting of shade trees by the school children of the municipality on one of the principal avenues of the city. It is proposed to systematically follow this practice year by year, so that when these children grow up they will see the result of their work in rows of beautiful shade trees along the streets

of the town.—A moving-picture THEATER, having a seating capacity of 2,000 persons, was opened to the public in the city of Santa Ana on May 20, 1917.—The Congress of Salvador has enacted a law providing a ROAD BUILDING FUND from a tax levy of 3 centavos (about 1.6 cents) on each liter of rum sold in the eastern zone of Salvador, the proceeds of which are to be used in constructing highways suitable for automobiles between the cities of Jucuapa and Usulutan, and Santiago de Maria and Port Triunfo.—Recently, while investigating the foundations for the wireless telegraph tower in the suburbs of the city of San Salvador, a number of finely wrought and inscribed ANCIENT POTTERY VASES and other utensils are reported to have been discovered. These are to be examined by archaeologists, who will endeavor to decipher the inscriptions and appraise their value from a historical and artistic standpoint.—The sum of 40,000 pesos has been expended in the establishment of HYDROTHERAPEUTIC BATHS in Rosales Hospital in the city of San Salvador.—The wharf company at Acajutla has imported a powerful DREDGE from the United States to be used in cleaning and deepening the port.—The National Government expended for PUBLIC INSTRUCTION in 1916 the sum of 1,174,387 pesos (peso = \$0.586).—The San Martin BRIDGE, which was constructed over the Lempa River at a cost of 460,000 pesos, is soon to be opened to public traffic. The structure is 170 meters long and 6 meters wide.—A cooperative society entitled "Crédito Agrícola Salvadoreño" (Salvadoran Agricultural Credit), has been established in San Salvador. The society will make a specialty of AIDING SMALL FARMERS in such a way as to encourage the development of agriculture in the Republic.



URUGUAY

The President has appointed Dr. Justino Jiménez de Aréchaga SECRETARY OF THE DEPARTMENT OF INDUSTRY, vice Hilario Helguera, jr., resigned.—The department of industry has received a shipment of blooded sheep and hogs from the Argentine Republic to be used at the different Government experiment stations for improving the breeds of this stock.—Conventions have been concluded with the Governments of Argentina and Chile providing for an INTERCHANGE OF PROFESSORS between the universities of Uruguay and the countries mentioned.—The executive power has promulgated a decree prescribing the rules and regulations to be observed in HUNTING in the Republic.—According to data published by the bureau of statistics of the Uruguayan Government,

the last crop of WHEAT harvested in 12 of the 18 Departments of the Republic produced 80,190 metric tons of this cereal. The area sown to wheat was 207,035 hectares.—A recent executive decree regulates the importation, use, and sale of REMEDIES FOR THE TREATMENT OF SCAB in sheep, except where such preventives have been tried and have received the approval of the Government.—The National Nursery at Toledo is furnishing a large number of TREES to be planted in the Republic. A recent decree prescribes that persons owning not less than 100 hectares of land shall be supplied gratis with 100 trees. It is estimated that 100,000 trees will be distributed annually in this way. The nursery referred to will donate to rural communities, schools, police farms, etc., 100,000 trees during the present year, and 200,000 trees yearly thereafter.—The bureau of statistics of the Uruguayan Government has published data showing that the POPULATION of the Republic on December 31, 1915, was 1,346,161 inhabitants, 977,541 of whom lived in the 18 departments of the nation and 368,620 in the municipality of Montevideo. The population on the same date in 1916 was 1,378,808, of whom 1,004,844 were in the departments and 373,964 in the national capital. The area of Uruguay is given as 186,926 square kilometers, and the average density of population per square kilometer 7.37 persons.—An executive decree of May 4, 1917, prescribes the studies which must be followed in the COMMERCIAL HIGH SCHOOL in Montevideo during the four years' course required for graduation from that institution.—The Uruguayan Senate has approved a bill appropriating 60,000 pesos (peso = \$1.0342) for the purchase of SEEDS to be sold to farmers on easy terms. A revised estimate indicates that three or four times this sum will be required to adequately supply the needs of agriculturists, and, in view of this fact, the State Insurance Bank of Montevideo has arranged to negotiate a loan for such an amount as may be necessary, contributing for this purpose as its quota 50,000 pesos. The seed commission will provide growers with oats and linseed for planting. Experiments are being conducted by the Government at the agricultural stations of the Republic concerning the cultivation of oats for forage purposes.—The sowing of ALFALFA in Uruguay from seed grown in the Argentine Republic has resulted in the production of about 50 per cent more than that obtained from the sowing of French seed. The Government of Uruguay has, therefore, decided to procure its seed from Argentina in the future.—A decree of April 26, 1917, prescribes that only the Uruguayan flag may be used on SHIPS UNDER URUGUAYAN REGISTRY engaged in the foreign trade, and requires both owners and masters to be Uruguayan citizens.—The Montevideo WATERWORKS has profits available for distribution from the

earnings of 1916 amounting to £165,684.—El Salto HOSPITAL is to be enlarged, the estimated cost of the work aggregating 177,000 pesos.

The department of foreign relations of the Government of Uruguay has furnished the MONTHLY BULLETIN with the following data:

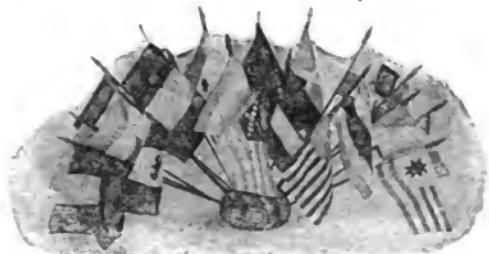
A decree has been issued prohibiting the consuls general of Uruguay from granting to vessels which navigate without a provisional permit permission to discontinue FLYING THE URUGUAYAN FLAG until the true nationality of the flag of the country to which they belong is established. This was done because the reports of the maritime officers of the Government and the registry records of the marine department show that foreign shipowners request provisional permits solely for the purpose of profiting in the purchase and sale of vessels, inasmuch as within the term of their voyage, that is to say, one year, they sell said vessels and place them under the flags of other nations.—NAVIGATION LICENSES issued by the Uruguayan Government to the national vessels hereinafter mentioned have been canceled for failure to make coastwise voyages during a period of five years: *Antonia, Josefita, Lino, Luis M. Moragues, Maria Lorenza, Pedro, Pilar, Port Sonachan, Uriarte No. 4, and Alfredo*.—In order to limit at this time the number of vessels sailing under the national flag, a decree has been issued forbidding the use of the Uruguayan flag by vessels whose owners, lessees or captains are not naturalized or native citizens of the Republic. Vessels which have obtained provisional permits from Uruguayan consuls are required to report at Uruguayan ports within a period of six months, which term shall not be extended, with the object of obtaining PERMANENT NAVIGATION LICENSES. Vessels having no national navigation license shall make not less than two round trip voyages annually to ports of the Republic. Vessels which fail to comply with the provisions of this law shall be considered withdrawn from the national registry and their respective licenses ipso facto canceled.—The President has promulgated a law establishing a DIVISION OF THE FLEET, attached to the department of war and marine, having the supreme control of the maritime forces of the Republic, and command and supervision over the personnel and services, respectively, of the general maritime, fluvial and coast defense, and possessed of other powers conferred upon it by the military rules and regulations of the country in accordance with the nature of its duties and, by analogy, those of the general staff of the army applicable thereto.—A decree has been issued by the departments of foreign relations and of war and marine, in accordance with a law of April 6 last concerning the use of the Uruguayan flag by vessels and the provisions of section 5 of chapter 18 of the rules and regulations of the consular law of January 12, 1917, under which consuls are not authorized to issue PROVISIONAL NAVIGATION PERMITS to vessels said to be for registry in Montevideo, even though they show that they are not under the flag designated by the consular authorities of the country to which they formerly belonged. This rule was made in order that the new law concerning flags, which requires that a detailed inquiry concerning vessels desiring to register in the Republic, be made, as well as an examination of their papers relating to owners, lessees, and captains. The suspension of the authority of consuls to issue provisional navigation permits to vessels is to be effective during the continuance of the European war.—The President has sent a message to the General Assembly accompanied by a bill recommending the reorganization of the CHARITY BOARD (*Asistencia Pública*), the latter to be governed by a board of directors composed of the director general of "Asistencia Pública" and nine members, seven of whom are to be appointed by the President, one by the Faculty of Medicine of Montevideo, and one elected by the technical staff of the charity board.—The President's message to Congress reviewing the financial situation of the country was accompanied by a proposed law modifying the SANITARY LAW applying to the cities of Salto, Paysandu, and Mercedes, in so far as it refers to the

taxes set aside for the payment of the bonds issued and to be issued for the work contracted to be done by the Ullen Co. It is estimated that the tax revenues in accordance with this new proposal plan will represent, approximately, in 1918 and following years, 243,209 pesos (peso=\$1.0342), or half the amount of the annual service of the total bonded indebtedness referred to.—The executive power has issued a decree regulating the law of August 16, 1916, which establishes a new fiscal ruling concerning the importation of SILK FABRICS. Silk cloth, fabrics, or silk goods, which weigh up to 40 grams per square meter shall be dispatched at the conventional value or appraisement of 12 pesos (peso=\$1.0342) per kilo. The same goods, containing up to 70 per cent of other fibers, shall be appraised proportionately according to the percentage of silk which they contain. Silk stuffs weighing more than 40 grams per square meter shall have a value or appraisement of 10 pesos.—The chancellery, together with the Bolivian minister, Sr. Ricardo Mujía, has signed the following CONVENTIONS: General compulsory arbitration; acknowledgment of educational certificates, and rogatory and coastwise letters.—The Senate has approved a law regulating the professions of auditor and MERCANTILE EXPERT.—The executive power has submitted to the General Assembly a bill approved by the minister of public instruction requiring seven years study to obtain the degree of DOCTOR IN MEDICINE AND SURGERY.



The MESSAGE which Dr. V. Márquez Bustillos, Provisional President of the Republic, delivered to the National Congress on May 3 last stated that a treaty adreferendum had been made with the Republic of Colombia by which disputes pending between the two countries are to be settled by arbitration. The treaty in question is soon to be submitted to the consideration of the National Congress. Notwithstanding the abnormal times existing throughout the civilized world at the present time, the Executive states that foreign capital still continues to come into the country for investment in industrial and agricultural enterprises.—The department of agriculture has arranged, through its experiment station in Caracas, for the distribution of SEEDS to farmers who agree to plant the same, keep a record of the results, and return to the chief of the experiment station in the national capital a quantity of selected seed equivalent in weight to that received from the Government. If the persons receiving the seed prefer to pay for same in money instead of kind they shall be charged three times the prices indicated in the blank form furnished them at the time the allotment of seed is made by the Government. The record kept must show the area planted, the approximate elevation above sea level, the kind of soil, the time of flowering, the time of ripening, the quantity harvested, and the price of the product in the local markets at the time the crop is gathered.—Rules and regulations have been issued by the SCHOOL

OF ARTS AND CRAFTS for males in Caracas, as well as a detailed specification of the studies required in every branch of the four-year curriculum.—The Government of Venezuela has leased to Dr. Rafael Cabrera Malo lands containing undeveloped deposits of ASPHALT, PETROLEUM, and similar substances, situated in the municipality of Antonio Diaz, Territory of Delta Amacuro. A similar concession has been made to Dr. Gustavo Nevett covering the same kind of deposits in the Campo Elias district, State of Merida. The lessees agree to begin development work on these deposits within the next 18 months.—Antonio José Calcaño Herrera has been authorized by the department of fomento (Promotion) to construct and operate a telephone line between a number of towns in the District of Roscio, State of Bolívar.—FOREIGN DRAFTS on Venezuela firms are subject to a graduated stamp tax, varying according to the amount of the draft, from 0.05 of a bolívar in the case of drafts of a value of from 25 to 50 bolívares to 1 bolívar on drafts of from 501 to 1,000 bolívares (Bolívar—\$0.193).—Recent press reports state that the Maracay, Venezuela, PAPER FACTORY has resumed operations, and will use in the manufacture of news and wrapping paper the native fibers and grasses of the country. This factory, which was completed in 1915, has been shut down for some time.—The Royal BANK of Canada has opened a branch in Maracaibo, and is prepared to do a general banking business in northern Venezuela.—On June 12, 1917, the President of the Republic promulgated the new law enacted by Congress concerning RAILWAY CONCESSIONS. This law provides that railways built under concessions shall belong in perpetuity to the parties constructing them, but owners of railways in Venezuela are prohibited from transferring them in whole or in part to any foreign Government. In accordance with the former law railways built under concessions reverted at some specified time to the Government. It is believed that the new law will be the means of attracting capital to Venezuela for investment in railway enterprises.—The ELECTRIC TRAMWAY from the city of Maracaibo to Maracay commenced operations on May 18 last.





Photograph by Harris-Ewing.

NEW PHOTOGRAPH OF PRESIDENT WOODROW WILSON AND HIS CABINET.

Picture taken outside of the executive offices of the White House at Washington. Front row, left to right: William C. Redfield, Secretary of Commerce; Robert Lansing, Secretary of State; David F. Houston, Secretary of Agriculture; President Wilson; William G. McAdoo, Secretary of the Treasury; Albert S. Burleson, Postmaster General. Top row, left to right: Josephus Daniels, Secretary of the Navy; William B. Wilson, Secretary of Labor; Newton D. Baker, Secretary of War; Thomas W. Gregory, Attorney General; Franklin K. Lane, Secretary of the Interior.



VOL. XIV

AUGUST, 1917

No. 2

SOUTH AMERICAN PORT IMPROVEMENTS--WEST COAST, ETC.¹

ALONG the west coast of South America the productive regions do not, as a rule, send forth their products to a few trade centers, but to many small shipping points. Chile alone is credited with more than 60 ports; Peru, Ecuador, and Colombia have many more. Consequently, there are not many ports comparable in size and expenditure to those of the opposite side of the continent, considered in the previous article.

Concepcion Bay is Chile's southern naval rendezvous, and on this bay lies Talcahuano, a city of nearly 50,000 people. Nine miles inland, and connected with the port by both steam and electric railways, is the southern metropolis of Chile, Concepcion, with approximately double the population of the port. Talcahuano, Lota, and Coronel, not far distant from each other, form a cluster of leading smaller ports, their importance being based largely on the fact that in this region lie the Chilean coal mines which supply many naval and merchant vessels.

Talcahuano has a good anchorage in 36 feet of water half a mile from shore. Steamers discharge and load cargo at the rate of 600 to 800 tons per day. The Government crane has a capacity for handling goods up to 40 tons. There is a dock for repairing naval and commercial vessels. During recent years large sums of money have been spent in dredging and in the construction of long quay walls, all of which will doubtless be continued on a more extensive scale after the close of the world war.

¹ By William A. Reid, Pan American Union Staff.

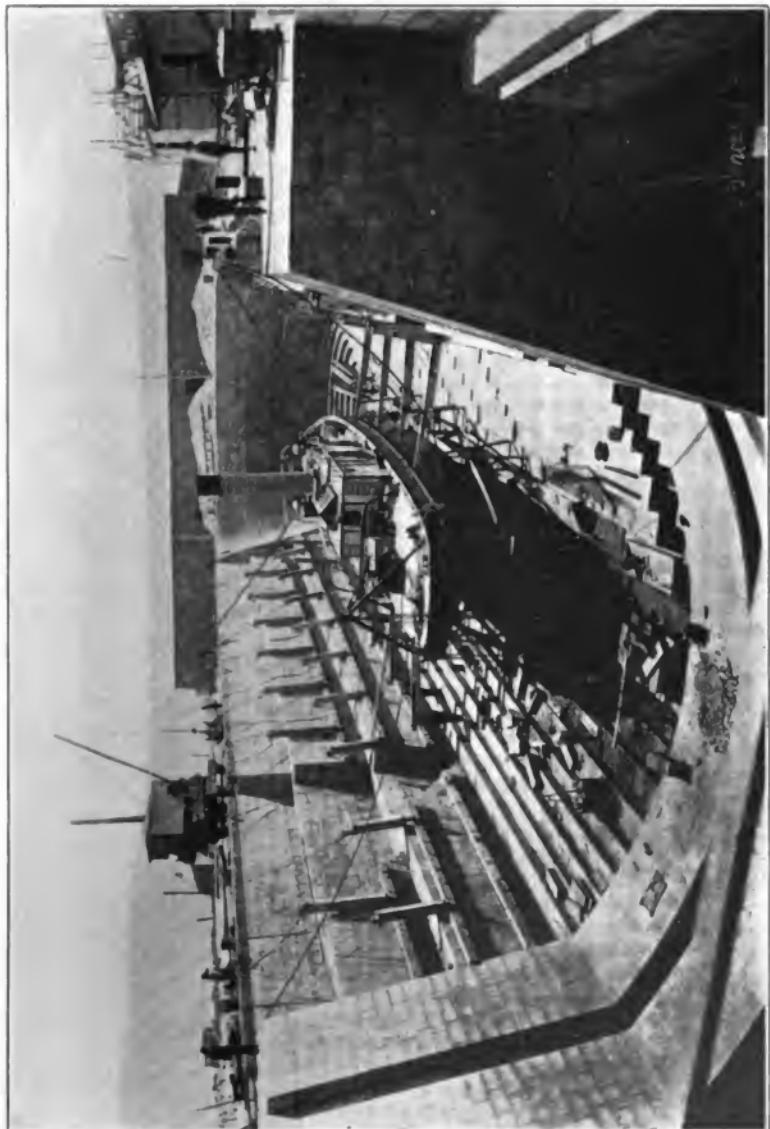


THE CITY OF CONCEPCION, CHILE.

"Concepcion Bay is Chile's southern naval base, and on this bay lies Talchenano, a city of nearly 50,000 people. Nine miles inland, and connected with the port by both steam and electric railways, is the southern metropolis of Chile, Concepcion, with approximately double the population of the port." The bridge shown in the above picture crosses the Bio-Bio River, and is over a mile in length.

The large dry docks at the flourishing maritime port of Talcahuano were constructed under the direction of the Federal Government at a cost of about \$1,200,000 gold. They are located a short distance from the great coal-mining district of Concepcion. Talcahuano is the naval station of the Republic.

SECTION OF THE DRY DOCKS, TALCAHUANO, CHILE.



Modernizing and improving the port of Valparaiso is perhaps the most spectacular task confronting the engineer in any South American harbor. The large bay is semicircular in form and opens toward the north—the latter fact placing the ship at anchor in the bay at a disadvantage during the months of July, August, and September, when storms frequently cause damage. Valparaiso Bay strikingly contrasts with the conditions prevailing at Montevideo and Buenos Aires; the former being extremely deep and necessitating vast expenditures in breakwater construction, while, as has already been shown, the two Atlantic cities suffer the handicap of shallow water harbors.

At Valparaiso the engineers concluded to build gigantic hollow cubes of concrete, of 50 feet dimensions, on shore and then float them to position. In February last the first of these cubes was laid, the occasion being marked by appropriate ceremonies. Scores of citizens were "aboard" this first giant cube, over which waved Chilean flags, as it was towed to its position in the breakwater line. Stone was placed inside, and as the weight increased the cube finally sank.

The improvements at Valparaiso began on a large scale in 1912, an English company having secured the contract, which involved \$12,000,000. A space covering 220 acres will be made safe for ships at all seasons. A few of the main features mentioned in the contract are a breakwater about 1,000 feet long, a quay wall 2,000 feet in length, extension and improvement of the fiscal wharf to a length of more than 1,000 feet, a jetty 820 feet long and 328 feet wide with landing quays on both sides, a vast amount of filling in behind quay walls on which eventually will stand many more warehouses.

Much of the work at Valparaiso has been done and still more remains to be accomplished. In the original agreement the contractors were to complete the works in seven years, or in 1917, but owing to the effect of the great war delays have been experienced and more time will be necessary. If, however, we stand at the country's naval academy, on the heights overlooking the bay, some important features of the plan may be seen in almost their completed form. These are the large warehouses on the shore and the new quay walls which are in the form of the letter T with the top of the letter toward the bay. On the outside line the water is sufficiently deep for large ships; inside, on the stem of the so-called letter, smaller vessels may be moored. Dredging near the shore is in progress.

The new port of San Antonio, 40 miles south of Valparaiso, is progressing satisfactorily, and at present ships may draw alongside the long iron piers and discharge and load cargo. This new port is 47 miles nearer Santiago than is Valparaiso, and its object is to relieve the older port of the traffic congestion that formerly existed. Furthermore, the railway line is having its influence in developing the country between Santiago and San Antonio, and as the port works draw



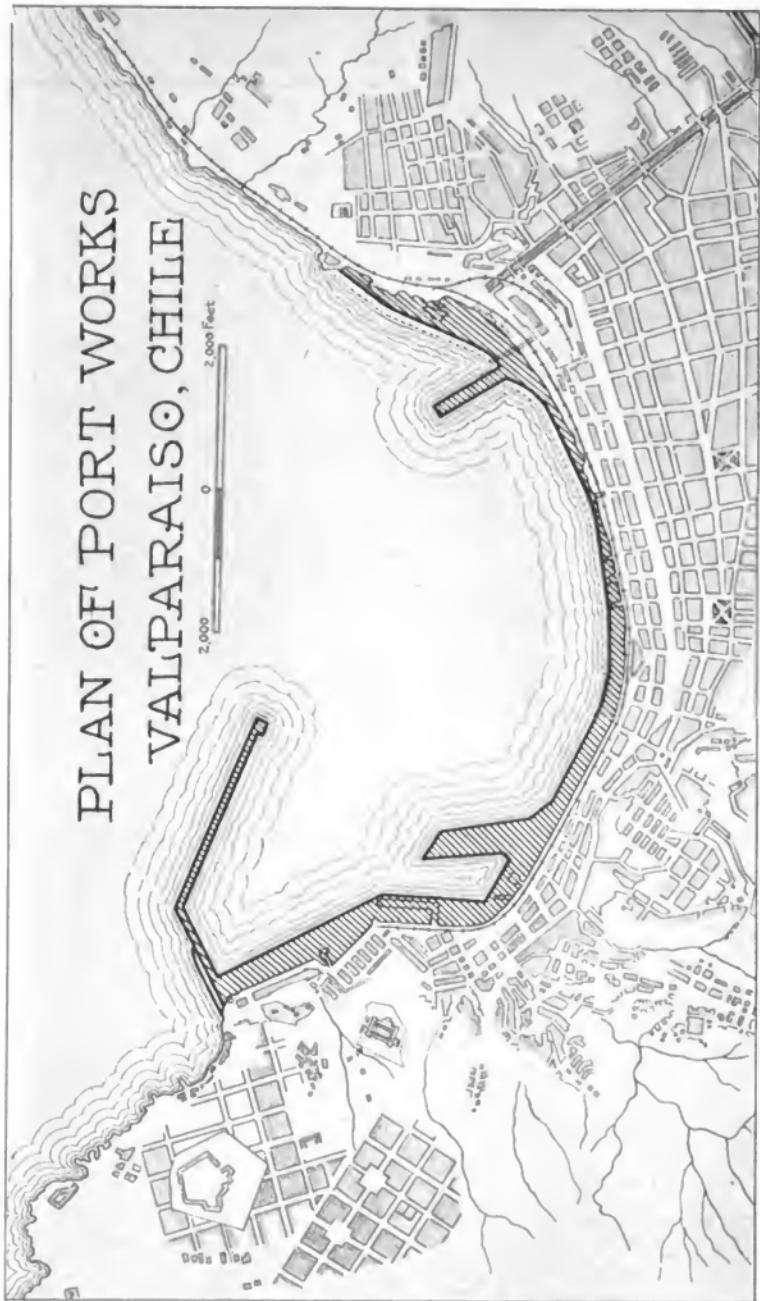
CORONEL, CHILE.

Two views of the method of handling cargo. This region of Chile supplies shipping with large quantities of coal. Trains from the mines are run onto the long pier and loading into lighters is done from either side.

PLAN OF PORT WORKS
VALPARAISO, CHILE

2,000 Feet

2,000



to completion doubtless the importance of the new outlet will be especially marked.

The activity of capital and the consequent outflow of iron ores from the Tofo mines, near Cruz Grande, 130 miles north of Valparaiso, appears to be responsible for the construction of what are perhaps the most unusual docking facilities along the entire coast. French capitalists owned the mining properties, which were acquired a few years ago by North American interests. A new railroad from the port to the mines, 15 miles inland, was built; and in descending to the port the electric engines generate at least a part of the power required to pull the empty cars back to the mines. The former French operators could load only 1,000 tons of ore per hour, which was far too small an amount for the new company. A gigantic dock, therefore, was planned and is now nearing completion. This dock is cut out of the precipitous coast, and its bottom level is about 40 feet below the waters of the Pacific. Reinforced concrete is extensively used in its construction. Ships, as soon as the outer wall is blasted away, will be able to enter this dock and receive more than 15,000 tons of ore per hour—a vast amount in comparison with the average rate of loading along the coast. Railroad trestles along the sides and high above the dock are so built that trains from the mines discharge the ore directly from car to ship, thus saving the tedious service of lightering cargo. It is said that the company will operate its own ships, another feature of production and marketing that is possible only with enterprises having large capital.

Antofagasta, 600 miles north of Valparaiso, is the third port of the country in commercial importance, and, unfortunately for the place, its port improvements have not kept pace with the general progress and upbuilding of the city. The latter has probably modernized more rapidly than any other Chilean city in a similar space of time, and these features include almost all phases of economic growth, such as newly paved streets, sidewalks, motor busses, sewerage, new buildings, etc. Antofagasta, like São Paulo in Brazil, is situated almost on the Tropic of Capricorn.

The lack of shipping facilities is seriously felt, and plans are on foot for securing a foreign loan in order to construct adequate improvements. A large area of reefs fronting the city will be used for reclamation purposes, a breakwater will be constructed, and extensive quays provided. The cost of these improvements is estimated at something more than \$8,000,000, and if a loan is raised the interest rate will be 6 per cent and the amortization about 2 per cent.

Iquique, with a population of 30,000 or more, lies 830 miles north of Valparaiso and is the country's second port of commercial importance. Its exports are approximately double those of Valparaiso and are mainly the well-known nitrate and other mineral products.



CONSTRUCTION SCENES ON THE VALPARAISO HARBOR.

Upper: The giant cubes of masonry under construction. Later they are floated to position. Lower: Method of handling construction materials.



VALPARAISO, CHILE.

Upper: Several of the new gigantic cranes for handling cargo. Lower: A view of portions of the completed docks.

In imports, however, Iquique falls behind Valparaiso. Like the larger city, Iquique has planned extensive port improvements, and no doubt the present prosperity of the country will give renewed impetus to these proposed facilities.

Peru has a dozen or more larger ports on the Pacific, of which Mollendo and Callao are the most important. From all of her ports, Amazon and Pacific, Peru shipped in 1915 more than \$68,000,000 worth of raw products and purchased abroad \$15,000,000 in return, or conducted a foreign trade of more than \$83,000,000. A large portion of this commerce was doubly handled—that is, from pier to lighter and from lighter to ship and vice versa.

Mollendo is the important southern port of Peru and the starting point of the railway between the Pacific and Lake Titicaca and other inland regions. The surf and sea swell at this port are heavy, especially during June, July, October, and November. Ships anchor a mile or more out in the roadstead, and everything must be transported ashore by smaller craft. An island near the shore has been utilized as a sea buffer, and all boats direct their courses accordingly and unload passengers and freight behind the island in somewhat protected waters. Considerable improvements in recent years in sea walls, and a number of steam cranes having a capacity up to 20 tons, make the loading and unloading of cargo much more expeditious than formerly. Northward 480 miles is Callao.

Callao is the only Peruvian port where modern docking facilities have been completed, although several other places have such improvements in contemplation. At other ports the long iron pier is used in handling cargo which arrives on the pier in trains directly from the interior.

At Callao, although the docks are extensive, they have been found at times inadequate, and additions are proposed. A few years ago Dutch engineers, at the request of the Peruvian Government, investigated the possibilities of port improvements, one feature of which was the joining of a near-by island and the mainland at La Punta, with modern docks and piers between.

For many years prior to 1912 a French company held exclusive control of the loading and the unloading of vessels within the port, and certain privileges are still retained by this company. One striking feature in connection with Callao's shipping during 1915 was the arrival of 40 steamships bearing the flag of the United States. In normal years it is customary for from 30 to 40 United States sailing vessels to call at Callao, bearing lumber cargoes, but the presence at different times of such an increased number of steamships caused comment, as well as the unloading of greater quantities of manufactured products from the United States.

TWO CHILEAN PORTS.

Top: View of the new port of San Antonio, 40 miles south of Valparaiso on which work is rapidly nearing completion. This port is 47 miles nearer Santiago the capital, and megalopolis of the country than is Valparaiso and is destined to relieve the congestion of traffic at the latter port. Bottom: The port of Cruz Grande, the outlet of the Trofio Iron mines of the Bethlehem Steel Co., near Coquimbo, Chile. The old French cantilever ore tender is shown extending out over the water. This cantilever loader now has a capacity of 1,600 tons of iron ore an hour, while the new loading docks will have a loading capacity of 16,000 tons an hour.





THREE IMPORTANT CHILEAN PORTS.

Top: Iquique, showing pier extending out into the harbor where the lighters are loaded and unloaded. Iquique is Chile's second port in commercial importance, being chief nitrate port of the country. It is located about 830 miles north of Valparaiso and has a population of about 30,000. Center: The port of Lota, one of the southern ports of the country, located about 30 miles south of the port of Talcahuano and about the same distance south of Concepcion, with which city it is connected by railway. Bottom: Antofagasta, the third most important port of Chile, is situated about 600 miles north of Valparaiso, almost on the tropic of Capricorn, and is in the nitrate region. Extensive port improvements, to cost about \$8,000,000, have been planned and will soon be started.

Callao is credited with 35,000 population, and in recent years perhaps nothing has been more important for the city than the new sewerage system completed in 1913.

Passing northward from Callao there are several ports before reaching Paita, the most northern (of importance) and one of the best ports on the entire coast of Peru. Being located within the rapidly-developing petroleum region, Paita is destined to grow and no doubt will soon find it necessary to give more attention to improving shipping facilities. Here the traveler usually procures a fine Panama hat or two from native merchants, who surround the steamship as she lies at anchor far out in the bay. A long iron pier from the shore aids traffic.

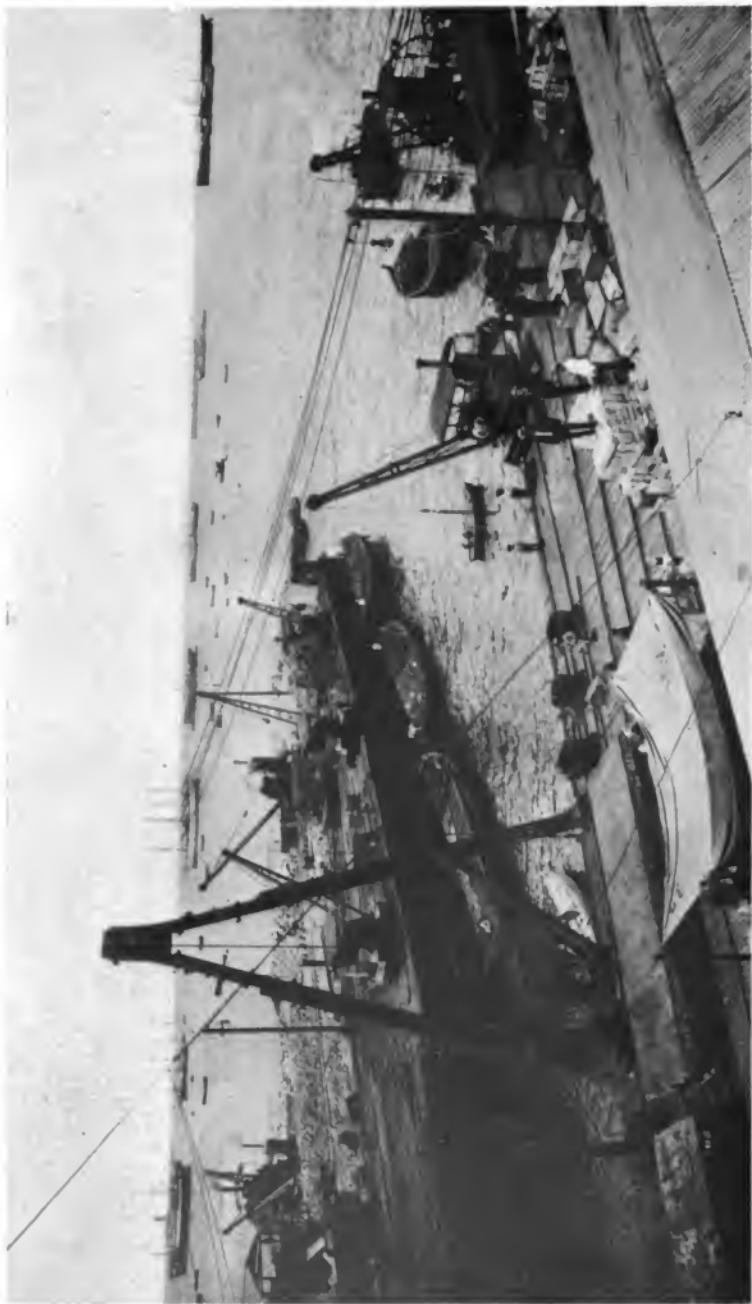
Northward, 215 miles from Paita, the ship enters the harbor of Guayaquil, Ecuador's chief commercial city. The 70-mile sail up the Guayas River from the ocean, especially if the vessel has proceeded from the rainless coast of Chile and Peru, offers delightful contrasts in beautiful tropical foliage and picturesque surroundings. The depth of the river admits vessels drawing 22 feet of water.

The "marina" or quay wall has been constructed along the shore of the river for a considerable distance and is capped with stone. Extending backward is a broad area along which a large maritime traffic is received and dispatched. The port proper is about 3 miles long and from a half to a mile broad, with a depth of from 12 to 40 feet. Several rivers, such as the Daule, Babahoyo, etc., unite with the Guayas above Guayaquil, and the tide in these rivers is felt from 50 to 80 miles inland. The rivers, especially during the rainy season, provide fluvial arteries for steamers of considerable size for many miles, in some cases to Zapotal, 200 miles distant.

The harbor of Guayaquil delights the average traveler with its number of small sailing vessels, many of which have the appearance of oriental form and life and which transport to Guayaquil a vast quantity of natural products gathered by natives in tropical forests along the streams mentioned. The large ship anchors off the port and lighters transfer the products between vessel and shore and at the rate of about 8 tons per hour from each hatch of a ship.

Recent years have seen marked improvements in Guayaquil's preparedness for handling a larger amount of foreign trade. Not the least important are the sanitary improvements and other modernizing works now in progress in and around the city.

Quite a number of small sailing vessels are constructed in Ecuador's ports of Data, Morro, Posorja, etc., and it seems probable that the present demand for ocean transportation may have a stimulating effect on local work of this nature, which in recent years has somewhat declined, at least in the building of ocean-going craft.



THE PORT OF MOLLENDO, PERU.

Mollendo is the most important of the southern ports of Peru. It has been considerably improved in the past few years and work is still going on. The view shown above presents the harbor scene looking out from the docks. Trains are run out on the quay walls, and modern hoisting cranes and other facilities are provided for the loading and unloading of cargo.

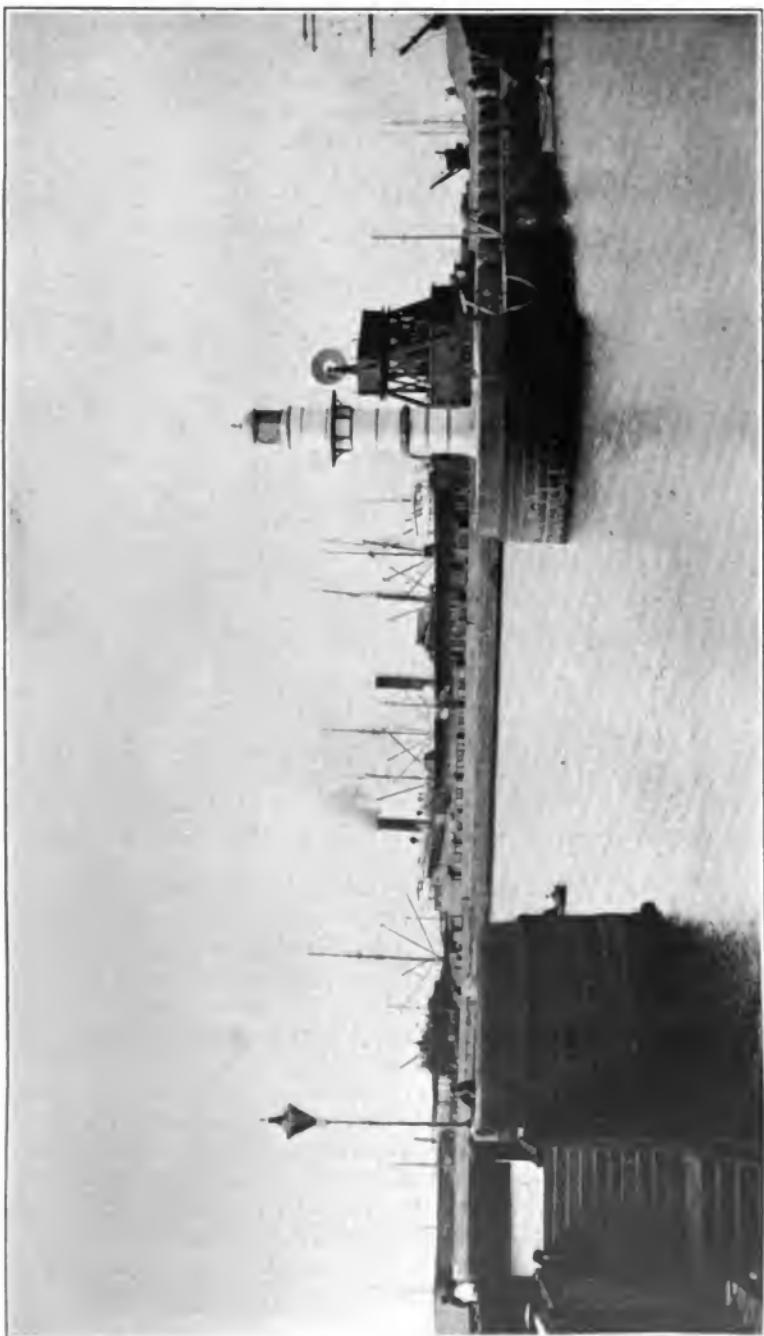


Photo by W. V. Allord.

THE PORT OF CALLAO, PERU.

Callao is the only Peruvian port where modern docking facilities have been completed, although at several other places such improvements are under way. Although these docks are quite extensive, they have been at times inadequate to accommodate the growing commerce of the city and extensive additions are being considered.

The more northern ports of Ecuador are Manta, Bahia, and Esmeraldas. From each of these ports considerable quantities of raw products are shipped annually, but as yet it is necessary to load cargo by the old method of the small boat and lighter. At each of these towns also railways have at least started backward into the country and the plans of their promoters are to carry them to the interior, eventually to Quito or even across the mountains into the Amazon region. With such new routes open to commerce it seems probable that the seaports must soon improve and modernize their facilities for handling greater business.

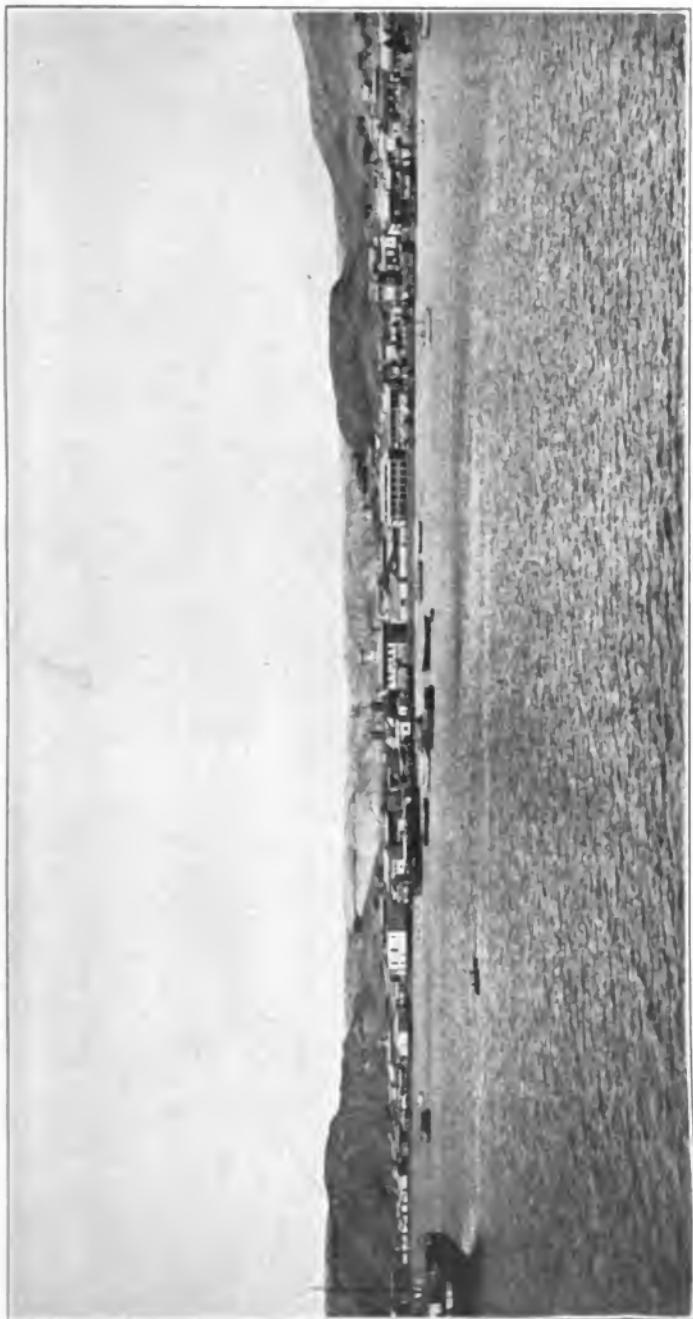
Passing from Ecuadorian waters northward the vessel goes on the bosom of the Peruvian current, the rate of the latter's movement being from 25 to 35 miles per day all the way to Panama, a distance of nearly 800 miles.

The most important Pacific port of Colombia is Buenaventura, at about the halfway point of her western coast. Since the completion of the railroad from this port to Cali, 80 miles inland, there has been considerable endeavor to build a modern port. One of the most essential features is the betterment of sanitary conditions which are now under way by specialists engaged for the purpose, and ere long no doubt Buenaventura will be as healthful as other parts of the country.

The population of the port is about 5,000, and the town is located 10 miles from the mouth of the river of the same name. The latter admits vessels drawing 25 feet of water as far as Buenaventura, and possesses many natural advantages favoring increased maritime trade. A Federal law passed last year provides for the Government's cooperation with the Pacific Railway Co. in order to secure a loan for harbor improvements and railway extensions.

Colombia and Venezuela were, by the opening of the Panama Canal, placed directly on the world's highway of maritime trade. With the return of normal conditions it is practically certain that these two nations, so wealthy in raw products needed in the great rebuilding era, will prosper as never before. Their ports, therefore, have been the subject of much attention and some improvements, checked only by the world war.

Colombia's principal Caribbean ports are Cartagena and Barranquilla, the former on the sea and the latter a short distance up the Magdalena River. The course into Cartagena harbor (the city being on an island) lies along shores bedecked with mangroves, palms, and other tropical growth, with here and there a picturesque cluster of houses. In the background on the mainland rise a series of hills, and in numerous cases the prosperous business man has chosen the locality for his suburban residence.



VIEW OF PAITA, A PORT OF NORTHERN PERU.

Paita, the most northern of Peru's important ports, is one of the best on the Peruvian coast. It is located within the rapidly developing petroleum region of the country, and the increased activities in this industry alone will necessitate further port improvements. At present a long iron pier which extends out into the harbor offers facilities for loading and unloading cargo.



A VIEW OF GUAYAQUIL, THE CHIEF PORT OF ECUADOR.

Guayaquil is situated on the Guayas River, about 70 miles from the Pacific Ocean, the depth of the river admitting vessels drawing as much as 22 feet of water. The "Marina" or quay wall has been constructed along the shore of the river for a considerable distance, and is capped with stone, back of which is a broad area where maritime traffic is accommodated. The port proper is about 3 miles long and from a half to a mile wide. Large ships anchor off the port, and lighters transfer cargo at the rate of about 8 tons per hour from each hatch of the vessel.

The port of Cartagena is landlocked and the channel leading thither varies from 30 to 40 feet, or is sufficient for the larger ocean vessels. Twenty-four years ago extensive wharves were completed but the growing trade demanded better facilities for handling cargo. The Government, through a well-known English firm, has plans for improving the city of Cartagena, as well as the water front on a more extensive scale than ever before; the channel entrance is to be changed and deepened to the railway wharf, onto which run the trains from the Magdalena port of Calamar, 64 miles away. Passengers and considerable cargo are landed at Cartagena directly on the pier. The city has about 30,000 people and the most interesting feature is the great sea wall constructed around the city many years ago by the Spaniards at an outlay of millions of dollars.

Unfortunately for Colombia, the port of Barranquilla is not reached by the ocean steamship on account of sand bars obstructing the mouth of the Magdalena. In order to remedy this natural defect the Government has had engineers make a study of the possibility of dredging a canal or of deepening the river so that large ships could go directly to the port of Barranquilla. As it is to-day, the smaller ocean port, Puerto Colombia, receives the large cargo vessels and a railroad about 17 miles long is used to transport passengers and freight between the port and Barranquilla. The latter has 40,000 people, and is the headquarters for several fleets of commercial vessels which ply up and down the Magdalena.

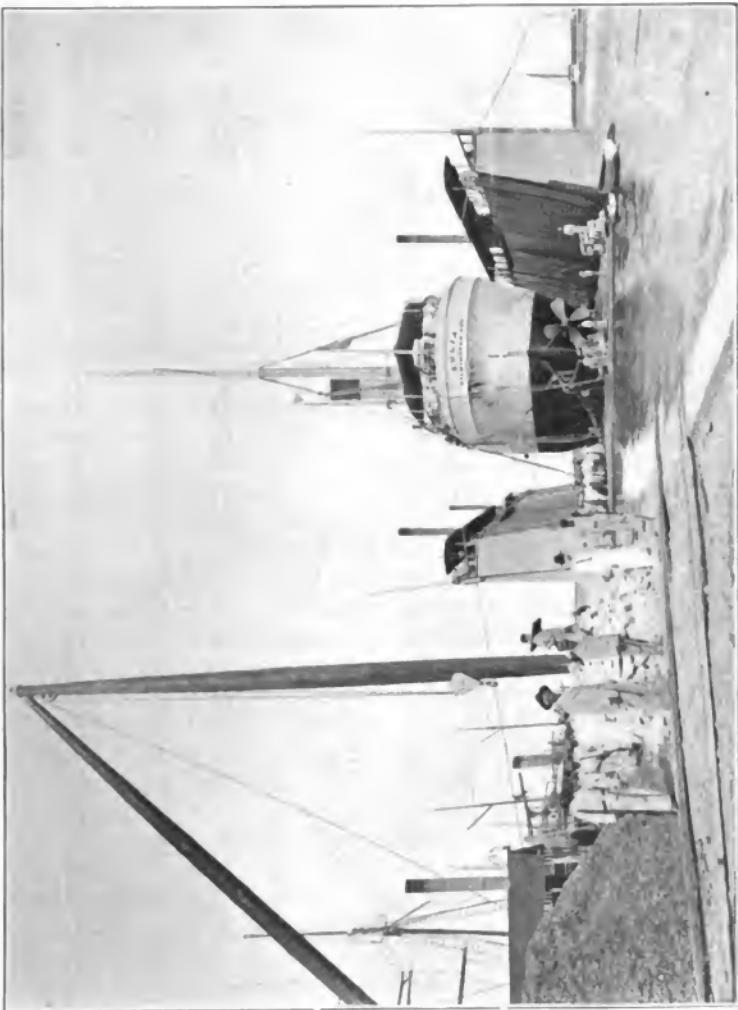
Voyaging eastward, the leading Venezuelan ports are Maracaibo, Puerto Cabello, and La Guaira, the last named ranking first in general importance, with the others in the order mentioned. In each port centers a large amount of raw products destined for world markets, transported thither by railroads and, in the case of Maracaibo, by rail and also by small craft that ply the waters of the lake of the same name. In fact, Maracaibo's export statistics show a larger amount than does any other port of the country. In this region of Venezuela recent years have seen renewed activity in petroleum production, some of the new oil having been used in Caracas and other cities. During the present year crude petroleum will perhaps form a very important article of export from Maracaibo, and the harbor, always alive with coasting and ocean ships, seems destined to a greater trade than ever before. In 1915 Maracaibo exported 29 per cent of the total Venezuelan products sent abroad, or of a value of nearly \$7,000,000.

A massive old fortress guards the entrance to the harbor of Puerto Cabello, one of the best and safest of the Republic. The fortress was constructed more than 300 years ago as a protection against the pirates that spread terror along the Venezuelan coast. Large vessels now dock at modern piers and cargo is unloaded and loaded directly



TWO LEADING PORTS OF COLOMBIA.

Top: View of the steel pile pier of the Barranquilla Railway & Pier Co. (Ltd.), at Puerto Colombia, the actual seaport for Barranquilla. The pier is 4,000 feet long, extends into water having a depth of 26 feet, and will accommodate five ocean steamers at one time. Bottom: A section of the historic sea wall of Cartagena, Colombia, a landlocked port which is connected with the sea by means of a channel having a depth of 30 to 40 feet, sufficient to admit large ocean vessels. Although the port has been provided with extensive wharves for many years the growing traffic has necessitated the planning of improvements which will enable vessels to tie up to the railroad wharves and greatly facilitate the handling of cargo.



THE FLOATING DRY DOCK AT PUERTO CABELLO, VENEZUELA.

One of the best and safest harbors of Venezuela is that at Puerto Cabello, where large vessels may dock at modern piers and load and unload cargo directly from ship to wharf. One of the important adjuncts of the port is the floating dry dock which can accommodate vessels of 2,700 tons. Its dimensions are 282 feet long, 50 feet wide, and a height of walls above pontoon of 21 feet.

from ship to wharf and vice versa. One of the important adjuncts of Puerto Cabello is the floating dry dock which can handle a 2,000-ton ship. Its dimensions are 282 feet long, 80 feet wide, and height of walls above pontoon, 21 feet. The dock has already proved invaluable in floating many large and small vessels trading along the Venezuelan and Colombian coasts.

Puerto Cabello has about 20,000 population and is the terminus of the railroad from Valencia, 34 miles inland. Along this and connecting railways and through the port passes a large amount of commerce, not the least important being beef cattle for export. A few years ago English capital constructed a modern cold-storage plant at Puerto Cabello for the purpose of slaughtering and packing Venezuelan cattle. The great demand for food has given a renewed impulse to this enterprise, and of the port's exports during the first six months of 1916, amounting to 23,783 metric tons, a considerable sum represented the value of beef and cattle products.

Long before reaching La Guaira, the chief port of Venezuela, the precipitous shore line looms high above the tropical waters, dominated by La Silla (the saddle) and other mountain peaks, the sea and mountain combining to form a pleasing picture. The old method of anchoring ships in the roadstead has passed and the new breakwaters and piers make it possible for the vessel to land passengers and cargo directly onto docks. A concrete breakwater of recent construction extends more than 2,000 feet from a point on shore, which partially incloses an area of nearly 100 acres, having an average depth of 28 feet. This depth, of course, renders the harbor waters suitable for all kinds of vessels. An English company secured certain concessions from Venezuela and constructed the breakwater under many difficulties, as in numerous cases the depth of water along its course is nearly 50 feet. Other concrete quays and retaining walls offer additional facilities for many smaller ships that trade along the coast of the Republic. On the whole, more than \$5,000,000 has been spent on harbor improvements, which include a number of warehouses and modern equipment for handling cargo on a large scale.

A massive structure behind a setting of mangrove and palm trees has long served as a customhouse; and it is to the credit of Venezuelan officials that goods are passed with unusual dispatch. In the first 6 months of 1916 the exports and imports of the Republic amounted to more than \$23,500,000, a large portion of which was handled by the La Guaira customhouse. About four-fifths of the exports consist of the much needed products of coffee, cocoa, and sugar.

The port of La Guaira is connected by rail with the capital, 23 miles inland but less than 8 miles air line. A highway also leads



TWO VENEZUELAN PORTS.

Top: The port of La Guaira, Venezuela. "The old method of anchoring ships in the roadstead has passed and the new breakwaters and piers make it possible for the vessel to land passengers and cargo directly on the docks. A concrete breakwater of recent construction extends for more than 2,000 feet from the shore, and partially incloses an area of nearly 100 acres having an average depth of 28 feet." Bottom: The port of Caripano, situated on the northern coast of Venezuela with a picturesque mountain setting for a background. In the foreground is shown the recently constructed steel pier which extends out into the Caribbean Sea.



THE PORT OF GUANTA, VENEZUELA.

"Guanta, one of the Republic's eastern ports on the Caribbean, has a landlocked harbor and facilities for docking ocean vessels. This port is the outlet for the city of Barcelona, a few miles inland, with which it is connected by rail. Guanta is also the outlet for the coal mines of Nuritai, which are destined to more active exploitation as the demand for fuel increases."

from the port to the capital and in recent years improvements in this road have made it popular with automobile owners. An electric line connects La Guaira with the summer resort of Macuto, about 6 miles eastward, where sea bathing and cooler breezes combine to make the resort especially attractive to strangers as well as popular with the people of Caracas and surrounding country.

Guanta, one of the Republic's eastern ports on the Caribbean, has a landlocked harbor and facilities for docking ocean vessels. This port is the outlet for the city of Barcelona, a few miles inland, with which it is connected by rail. Guanta is the outlet for the coal mines of Naricual, which are destined to more active exploitation as the demand for fuel increases. Many cattle also are shipped annually from this port.

THE WORK OF THE PAN AMERICAN FINANCIAL CONFERENCE¹

BY THE diplomatic and consular appropriation act, approved March 4, 1915, the President of the United States was authorized to invite the Governments of Central and South America to be represented by their ministers of finance and some of their leading bankers at a conference with the Secretary of the Treasury at Washington, with a view to establish "closer and more satisfactory financial relations" between their countries and the United States. Authority was also conferred upon the Secretary of the Treasury to invite representative bankers of the United States to take part in the conference.

The invitation to the conference was accepted by 18 Governments—namely: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Honduras, Nicaragua, Panama, Paraguay, Peru, Salvador, Uruguay, and Venezuela. The conference met in Washington on Monday, May 24, 1915, and adjourned on the following Saturday. It was called the Pan American Financial Conference, and was attended not only by the foreign official delegates but also by the members of the diplomatic

¹ Address before the New York State Bankers' Association, at its meeting at Lake Placid, N. Y., June 21, 1917, by John Bassett Moore, vice chairman International High Commission.

corps from Central and South America, by the Secretary of State of the United States and other members of the Cabinet, by the chairmen of the Foreign Affairs Committees of the Senate and House; by the Assistant Secretaries of the Treasury, by the members of the Federal Reserve Board and officers of the Federal Reserve Banks, by members of the Federal Trade Commission, and by representative bankers and business men from all parts of the United States. It was presided over by the Hon. W. G. McAdoo, Secretary of the Treasury.

The immediate occasion of the assembly was the derangement of commerce and finance by the great European War, the effects of which were acutely felt not only in the dislocation of exchanges between Europe and America, but also in the relations between the American countries themselves, which, although their interdependence had been greatly increased, found it necessary to make numerous readjustments. In these circumstances it was only natural, it was indeed inevitable, that the work of the conference should assume a wide scope and reveal the need of continued and systematic effort for the improvement of commercial and financial relations between the American countries.

The original program of the conference embraced the monetary and banking situation, the financing of public improvements and private enterprises, the extension of inter-American markets, and the improvement of transportation facilities, including postal exchanges, money orders, and the parcels post. For the purpose of considering these questions the members of the conference were assigned to group committees, such a committee being created for each country. In this way the full and free presentation of the needs and desires of each country was duly assured. An examination of the reports of these committees shows that, next to transportation, the subjects that attracted most attention were improved banking facilities and the extension of credits.

The reports of the group committees were referred to a general committee on uniformity of laws relating to trade and commerce, which was charged with the duty of reporting upon the subjects with which the conference should deal and the organization necessary to carry the resolutions of the conference into effect. The report of this committee was unanimously adopted by the conference. It included, in the order here given seven subjects: (1) The establishment of a gold standard of value; (2) bills of exchange, commercial paper, and bills of lading; (3) uniform (a) classification of merchandise, (b) customs regulations, (c) consular certificates and invoices, (d) port charges; (4) uniform regulations for commercial travelers; (5) further legislation concerning trade-marks, patents, and copyrights; (6) the establishment of a uniform low rate of postage and of charges

for money orders and parcels post; and (7) the extension of the process of arbitration for the adjustment of commercial disputes. Because of variances of view as to methods and measures and the complications of local legislation, the subject of marine transportation, in spite of the deep and general interest which it excited, was not for the moment placed upon the program.

For the purpose of carrying its resolutions into effect the conference recommended the establishment of an International High Commission, to be composed of not more than nine members, resident in each country, to be appointed by the minister of finance of such country, these local bodies, composed of jurists, financiers, and technical administrators, constituting the national sections of the International High Commission. This recommendation was promptly carried into effect in the countries concerned; and by the act of Congress of February 7, 1916, the United States section was endowed with a specific legislative status.

The International High Commission, which, besides carrying on its work locally through the various sections, had conducted its work internationally by exchange of correspondence, held its first general meeting at Buenos Aires, from April 3 to April 12, 1916. The program of the meeting included, in addition to those acted upon by the Washington conference, six different subjects—(a) international agreements on uniform labor legislation; (b) uniformity of regulations concerning the classification and analysis of petroleum and other mineral fuels with reference to national policy on the development of natural resources; (c) the betterment of transportation facilities between the American countries; (d) banking facilities, extension of credit, financing public and private enterprises, and the stabilization of international exchange; (e) telegraph facilities and rates and the use of wireless telegraphy for commercial purposes; (f) uniform legislation as to conditional sales and chattel mortgages. All these topics were discussed and were the subject of reports by appropriate committees.

The International High Commission, at its meeting in Buenos Aires, besides dealing with questions of finance and administration, constituted a central executive council for the purpose of systematizing and coordinating its work, carrying out its recommendations, and preparing the programs of future meetings. This council consists of three members—a president, vice president, and a secretary general. These three places are occupied by the chairman, vice chairman, and secretary of the national section of the country chosen for the time being as headquarters of the International High Commission. On motion of a member from Argentina, Washington was unanimously designated as the headquarters of the commission till the next meeting, and the chairman, vice chairman, and secretary of

the United States section thus became the constituent members of the central executive council.

The central executive council, on entering upon its labors, decided that the best plan of procedure would be, while pressing the work of the conference as a whole, to select certain subjects for more immediate, definite treatment. With this view, it selected five subjects—(1) the establishment of an international gold clearance fund; (2) an international agreement to facilitate the work of commercial travelers; (3) legislation concerning negotiable instruments (including The Hague rules on bills of exchange), checks, and bills of lading, and warehouse receipts; (4) the arbitration of commercial disputes; (5) the ratification of the conventions adopted by the Fourth International American Conference at Buenos Aires in 1910 on trade-marks, copyrights, and patents.

In pursuance of this plan the central executive council has formulated drafts of treaties concerning commercial travelers and the establishment of an international gold clearance fund, and these drafts have been submitted through the Department of State of the United States to the governments concerned, together with explanatory memoranda.

In presenting these projects it has been the design of the central executive council to suggest to the various sections of the International High Commission measures which appear to be susceptible of a ready solution. The subject of commercial travelers is one of general and increasing importance. In nearly all the countries of Central and South America such travelers pay a tax, but only in a few countries is this a national tax. Generally the tax is imposed by the States and occasionally even by the municipalities. Onerous as this system may seem, it is part of a concept of taxation, which, as the result of tradition or of local conditions, extensively prevails, under which charges are imposed upon professional classes and other groups, rather than upon the income-producing capacity of individuals regardless of business or profession. What the council has ventured to suggest is the federalization of the taxes on commercial travelers, together with the facilitation of their operations through customhouse and other fiscal machinery.

To this end the treaty draft provides for the issue of a national license, to run for a fixed period, and to be paid for with one fee, which the National Government may, if it so wishes, divide among the local governments surrendering this source of revenue. But, in order to obtain such license, the applicant must produce a certificate from his home government attesting his bona fide character as a commercial traveler; and he must also bring with him a certificate from a home customs authority setting forth the number and character of his samples, so that he may be permitted to give bond to pay duties upon

them in case he should sell any portion of them or should fail to reexport them before the expiration of his traveler's license. In addition the council has submitted a protocol embodying administrative details, and has drawn up forms of documents which may be used by the Department of Commerce and by the customs authorities of the United States under the treaty.

The establishment of an international gold clearance fund formed the subject of a memorandum submitted by the delegates of the United States section at the meeting of the International High Commission at Buenos Aires in April, 1916. The scarcity of transportation facilities and the dangers created by belligerent operations had then rendered the shipment of gold extremely hazardous and often impossible. During the preceding year the Federal Reserve Board had evolved a system of settling debts among the 12 Federal Reserve Banks by means of a gold settlement fund, whereby, through the device of one bank ear-marking gold for another, a safe legal transfer of ownership was substituted for the physical transfer of the gold. It was conceived that a plan might be evolved for similar settlements between nations.

Such a plan is embodied in the draft treaty above mentioned, which provides that all deposits of gold, made within the jurisdiction of any of the high contracting parties for the purpose of paying debts incurred in the jurisdiction of another, in the course of private commercial and financial transactions, shall be treated by their governments as constituting an international fund, to be used for the sole purpose of effecting exchange. To this end they are to agree never to appropriate any part of it, but on the contrary, each within its own jurisdiction, to guarantee it, in war as well as in peace, against seizure by any public authority as well as against impairment through any political action or change whatsoever. They are further to agree to act as trustees of the fund, and for this purpose to designate, each within its own jurisdiction, a bank to hold any part of the fund there existing, as joint custodian with such person or persons or such institution as they may concur in appointing for that purpose, such joint custodians to hold the moneys so entrusted to them, subject to the order of the creditors for whom it is held.

Under this plan, if, for instance, exchanges between Buenos Aires and New York were such that gold would have to be shipped to New York, the amount would be placed with the designated depositary bank at Buenos Aires in the international clearance fund, while the New York depositary bank, duly advised by cable, would place at the disposal of the Buenos Aires bank the same amount against which exchange on New York might be sold. The gold in Buenos Aires would be kept under the joint custody of the Argentine bank

and such additional trustees acting for the international clearance fund as might be designated with the approval of the New York bank, the latter having, however, the right at any time to stipulate that the gold be shipped. Therefore the Buenos Aires bank, in selling exchange on New York, would have to provide for a margin sufficient to assure the shipping cost, the insurance, remelting and other incidental expenses which might arise in case actual shipment became necessary. Should the gold, however, remain at Buenos Aires until the tide would turn so that the transaction would be reversed, that is to say, until the moneys paid back to the New York bank would release the gold at Buenos Aires, then the shipping and other expenses would have been saved and would become the profit of the respective banks, to be apportioned between them by direct negotiation.

If the same gold coin were used by both depositary banks, the transactions in the international gold clearance fund would be very simple. But gold of different fineness and denominations would be deposited in these two banks, to say nothing of banks of other countries of South America where the deposits in the international clearance fund would include widely differing types of gold coins. The freest play of the proposed system could be expected only when gold coins interchangeable between various countries were in fairly common use in all countries participating in the arrangement. As a first step in this direction, the International High Commission at its meeting of April, 1916, adopted a uniform money of account to be used in all statistical publications and in the calculations of the international gold clearance fund, the unit of this money of account being a gold coin 0.900 fine and 0.33437 grammes in weight. This unit, which it is proposed to call the American franc, is exactly one-fifth of a United States gold dollar, and is very close to the normal monetary unit of the South American countries, so that it was hoped that it might readily be adopted as the actual monetary standard, contributing to the development of trade relations by facilitating settlements between the various countries. For these reasons, the proposed unit forms part of the plan incorporated in the draft-treaty for an international gold clearance fund.

I will not detain you with a narration of what has been done by the International High Commission and its central executive council during the past 12 months to secure uniform legislation on negotiable instruments, bills of lading, and warehouse receipts, to extend the arbitration of commercial disputes and to secure further ratifications of the conventions of 1910 relating to trade-marks, copyrights, and patents. In the past 30 years great progress has been slowly but surely made both in Europe and in America in the direction of bringing about greater uniformity in commercial law and in methods

of fiscal administration. As to negotiable instruments, we need only mention the important conferences at The Hague in 1910 and 1912, resulting in uniform rules on bills of exchange which have been incorporated into the legislation of several of the participating States. In 1890 a congress was held at Berne for the purpose of standardizing governmental regulations for the handling of freight at international frontiers. The consultations held at the international exposition at Paris in 1889 on the subject of statistics culminated in the statistical conference at Brussels in 1913, at which an international convention was agreed to and signed for the establishment of an international statistical bureau at that place. I scarcely need mention in the presence of this body the historic conferences which have been held in Europe for the purpose of adjusting international monetary conditions, or to the international unions dealing with posts, telegraphs, patents, and copyrights.

Similar efforts have been made in this hemisphere, especially during the past 30 years. I need only cite as examples the International American Conferences, the Pan American Scientific Congresses, and the Pan American Sanitary Conferences. The Pan American Financial Conference was not intended to supersede the activities of any of these bodies; for, while it has had occasion to further the adoption of some of the measures with which they were connected, it has found a broad and ample field of its own.

In one respect it possesses a distinct advantage, and that is in its capacity for continuous work. It is an ordinary defect of international conferences that, when the final session is held, they cease to exist, so that their work falls wholly into other hands. The Pan American Financial Conference, through the constitution of the International High Commission, and the creation by the latter of the central executive council, has established an organization by which the great task of securing desirable uniformity in legislation and in administration, among the American Nations, may be prosecuted vigorously and without interruption.

Anyone interested in securing more detailed information concerning any branch of the work may obtain it by addressing the Secretary General of the International High Commission, Treasury Department, Washington, D. C.



FAMOUS SEASIDE RESORTS: MAR DEL PLATA AND POCITOS

WHEN the crisp autumnal air turns the northern pleasure seeker from waning seaside gayeties, our contemporaries in Argentina and Uruguay are preparing to don their garbs of summer and seek rest and recreation along the sandy beaches of the far southland. Nature reverses the season of vacations, but not the pleasures themselves; for when we glance at our respective sports and pastimes there are found many traits in common. Peoples of both North and South America enjoy and derive great benefit from days of summer spent in the great outdoors, and doubtless nothing appeals more strongly to the masses than old ocean.

The acknowledged queen of Argentine seaside resorts is Mar del Plata, directly on the Atlantic Ocean, about 250 miles southeast of Buenos Aires. The place is a little city within itself, being credited with 25,000 people. With the advent of spring, however, Mar del Plata begins to assume greater activity, and the height of gayety is reached about the time the people of the United States are enduring the cold and snows of midwinter. Additional thousands are then added to the southern resort's population, business cares and anxieties are seemingly forgotten, and Argentines find pleasures and diversions at their greatest watering place.

To accommodate the crowds of patrons flocking seaward, the railway leading to Mar del Plata operates numerous trains in addition to the usual daily services. Indeed, some of the best and most sumptuously equipped trains to be found in all Argentina are on the route between the capital city and this famous resort. Those who know the road and do not care to view the country along the route, such as the busy business man, usually avail themselves of the specially provided night service, retiring at Buenos Aires and arising in Mar del Plata. The inquiring stranger, however, generally prefers the daylight trip through the prosperous cattle region traversed by the road, which offers interesting glimpses of the endless pampa famous in story and song. Mar del Plata, like most exclusive resorts, is truly a paradise for the people of wealth; but to judge from the vast crowds that pass between the capital and the resort by the sea, one is inclined to think that wealth is most generously distributed in Argentina.



PARTIAL VIEW OF ARGENTINA'S GREAT RESORT, MAR DEL PLATA.

During the summer season, corresponding to winter in the United States, many regular and extra trains are operated between Buenos Aires, other Argentine cities, and Mar del Plata in order to accommodate the crowds. The distance from the capital is about 250 miles. On the hill in the distance stand some of the beautiful residences.

DISTANT VIEWS OF MAR DEL PLATA, ARGENTINA.

Upper: General panorama taken from a boat far out on the beach. Center: On the golf links, which are a popular feature of outdoor life at Mar del Plata. The cool sea breezes add much to the pleasures of golfing. Lower: A nearer view of the resort, showing particularly the bathing beach. In the rear of the beach stands the Rambla, the building with the many columns.





ON THE SANDS AT MAR DEL PLATA, ARGENTINA.

In the foreground is pictured the popular pool, where the novice learns to swim or where the more timid bathers enjoy the salt water in its more tranquil state.

Glancing back into history, we find that about four decades ago such a place as Mar del Plata did not exist; but a schoolhouse, a mill, and a chapel formed the nucleus for a larger settlement. About this time Don Patricio Ramos secured a concession to build and improve the town, and the services of Charles de Chapeaurouge, engineer, were sought and obtained to draw plans of a future city. Don Pierre Luro, so the story is told, who owned much of the land thereabout, also aided in the enterprise. Time passed and the place grew; but let us pass over the early stages of progress and view some of the resort's activities to-day.

Our train, if we choose the daylight ride, has made the trip from Buenos Aires in seven hours, so that our arrival at Mar del Plata is near the hours of evening. We have time to secure comfortable rooms at one of the fine hotels—that is, if the wise precaution has been taken of ordering reservations in advance of arrival.

The topography of the country in the vicinity of the resort presents both rugged, precipitous shores and smooth sandy beaches; and the landscape architects have linked these natural features into one harmonious and delightful whole. During the active construction period, or within the last decade, speculation ran wild and land values soared overnight, so to speak, to fancy figures. Magnificent private residences as well as public buildings, hotels, and other edifices were created, and wealthy aristocrats made sure that everything modern and luxurious was installed within their homes, even if occupied very few months in the year. Ideas of elegance and beauty in seaside construction were adopted from some of Europe's famous resorts and combined with those suggested by home talent, so to-day Mar del Plata is fair to look upon.

A lengthy and beautiful structure, known as the Rambla, extends along the most popular section of the bathing beach. The sands and breakers in front of the Rambla furnish the watery playground for thousands of people. Unlike the course largely followed by the coastal resorts of the United States, the hotels and clubs at Mar del Plata, as a rule, are located back in the city. This fact causes the people to congregate in larger numbers on the spacious areas of the Rambla, especially during bathing and promenade hours. An architectural feature of this beautiful structure is the large number of columns standing in pairs along the front, giving it, especially from the beach, a most attractive and inviting appearance.

In front of the Rambla the sea washes the sandy sloping shore, and it is there that visitors by hundreds or thousands enjoy the bathing during morning or afternoon hours. For those who are just learning the art of swimming or who are afraid of the sea, a fine extensive pool of quiet water is provided on shore. This attraction is surrounded by a fence and within the inclosure are seats,



SCENES DURING THE BATHING HOUR AT MAR DEL PLATA.

The gently sloping sandy beach pictured in the upper view offers a playground for old and young, while the incoming breakers, shown below, test the skill of the best swimmers and most experienced bathers.

MAR DEL PLATA, ARGENTINA.

One of the outdoor refreshment stands on the famous Rambla where the patrons may enjoy the cool sea breezes while sipping their late afternoon tea.





MAR DEL PLATA, ARGENTINA—THE BEAUTIFUL STRUCTURE FRONTING THE SEA, KNOWN AS THE RAMBLA.

In the foreground may be seen a few of the patrons of this aristocratic summer resort. The white columns standing in pairs along the front give the structure a most imposing appearance. The Rambla of Mar del Plata corresponds to the Board Walk at Atlantic City.

usually well patronized by those who enjoy the antics of the novice. Another feature of this beach is the number of tents and sunshades which stretch along the sands, somewhat resembling in appearance an encamped detachment of an army.

Bathing, of course, is only one of the attractions at Mar del Plata. There are amusements for men, women, and children. For adults the famous social club, housed in its own fine building, has many attractions. Its doors are open to members and their families only and its halls are regarded as among the resort's most popular social centers. This club is open from December to April. Many beautiful walks and drives along the seashore cliffs and inland from the water are provided for those inclined to wander far from the "mad-ding crowd's ignoble strife"; retreats for those who would look out over the vast expanse of the ocean and meditate; quiet spots for the dreamer or for the p'leasure-worn society victim.

On the other hand, there is an array of sights at Mar del Plata that can not fail to p'lease those seeking gay social life and amusement. Bands of music outdoors and orchestras within enliven the days and evenings; social teas, fencing classes, gymnasium lessons, shooting matches, card games, and, indeed, a hundred and one other features of amusement drive one's cares to the winds and enjoyment reigns supreme. The golf club and the jockey c'ub are two other popular places of amusement frequented by the higher classes of society.

The absence of the familiar automobile, so plentiful in other Argentine cities, attracted the writer's attention. Possibly to-day the carriages and fine steeds are being relegated to the past; but that idea does not appear to be in keeping with the country, for the average Argentine gentleman prides himself on his fine horses, and many, no doubt, are not content to spend their summer days without their equine favorites.

Just as Mar del Plata stands at the head of Argentina's seaside pleasure resorts, Pocitos is known far and wide as Uruguay's most famous and aristocratic watering place. Indeed, Uruguay has within easy reach of her capital city what might be aptly termed a cluster of popular seashore resorts, such as Pocitos, Ramirez, Capurro, Malvin, Carrasco, and others, and at least the first three named places may ere long be merged into one giant whole, as we shall see later.

As already observed, it requires 7 hours for the busy man of Buenos Aires to reach his country's exclusive seaside retreat. For the resident of Montevideo to journey to Uruguay's resort par excellence only 20 minutes are required. Montevideo being virtually on the ocean, it is only necessary to board an electric car in the heart of the city and alight at Pocitos. The route thither, by at least two



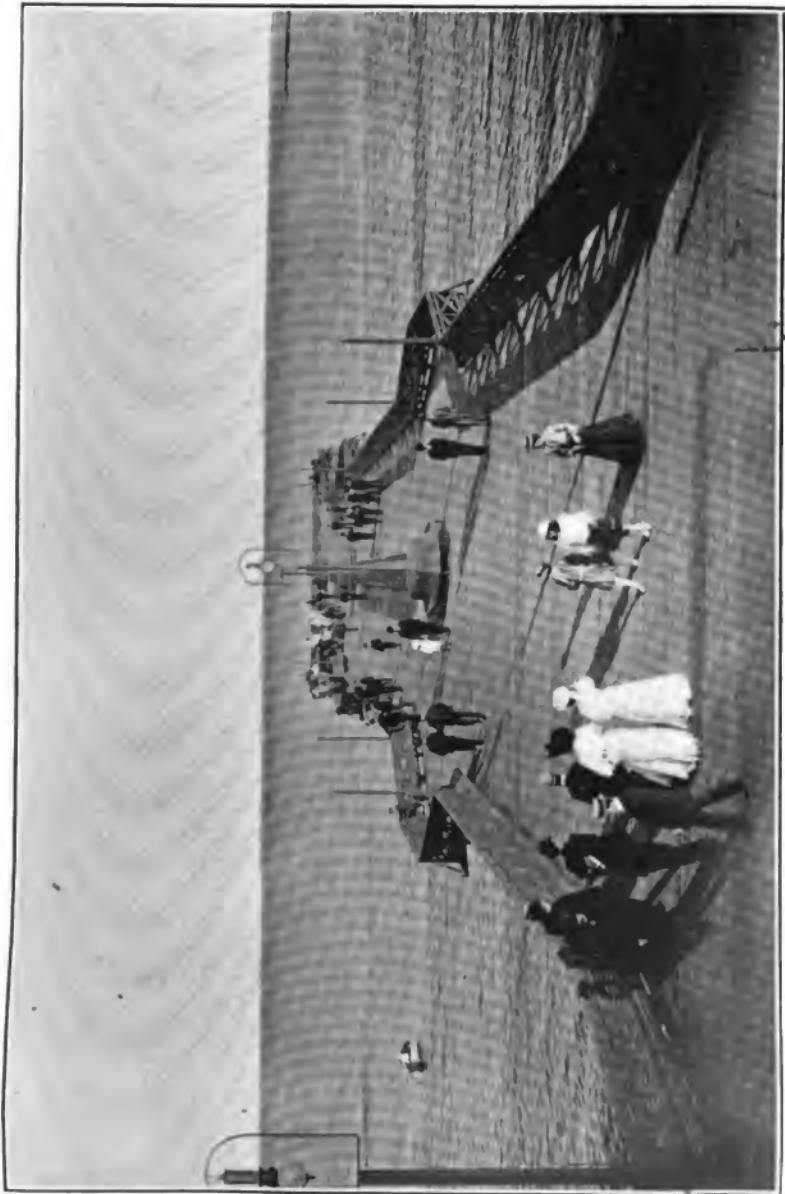
A PICTURESQUE SIGHT ON THE SANDS OF MAR DEL PLATA, ARGENTINA.

Sea fishing in the vicinity of Mar del Plata is an important industry, as the hotels and private homes require large supplies of fresh sea food. The sail boats of the fishermen are pulled ashore by horses, as shown in the picture, and when the breakers are high this labor is exciting and interesting to the onlookers.



A SECTION OF URUGUAY'S MOST POPULAR RESORT, POCITOS.

This attractive boulevard with its constantly moving crowds reminds the northern visitor of a New England resort in midsummer. Motor cars, amusement pavilions, restaurants, motion-picture houses, bathing facilities, all combine to please and entertain the masses.



PIER AT POCITOS, URUGUAY.

This pier extends far out into the water and is a very popular promenade for afternoon and evening crowds. On either side a continuous seat is provided along the whole length of the pier.

electric lines or by automobile, leads through delightful avenues and streets adorned with trees, and passing many homes of pleasing architecture. Many of these fine places the Uruguayans occupy only a few months of the year, generally only during the season lasting from December to March.

Pocitos is located on a bay, somewhat resembling the shape of a gigantic horseshoe, a mile or so wide. As the waves of the ocean roll in upon the sloping white sands of the shore, a variety of breakers furnish pleasure and amusement for thousands of vacationists. Generally speaking, the bathing during the early morning hours at Pocitos is considered rather too rough for the novice; and as a consequence the masses are in the water in the afternoons. In the rear of the beaches there has been constructed a semicircular esplanade, extending more than half the distance around the shore line. On this esplanade nearest the beach a wide sidewalk or promenade has been built, and at intervals along the way there are comfortable seats for those who wish to watch the bathers from a distance. Behind this promenade a broad avenue stretches, grassy plots adorning the center, with here and there a fancy electric light pole. The center of the street thus divides the course into coming and going sides, and the rule of the country is the reverse of the "turn to right" law prevailing in the United States. Fronting on this broad avenue and also fronting the sea, are fine residences, shops, gardens, flower beds, and houses of amusement. During the height of the season Playa Pocitos, as this avenue is called, is a scene of great animation. Motor cars and horse-drawn vehicles pass up and down the course under prescribed speed regulations, pedestrians are there by hundreds, amusements are in full blast, and general enjoyment is the order of the day or evening.

Out on the sandy beaches a feature of convenience, as well as modesty, is provided in the great number of dressing rooms on wheels. These little houses are pulled outward or inward on the sands, according to the movement of the tide, and are ever ready to shield the bathers as they prepare to enter or return from the water.

Pocitos is popular alike with Argentines and Uruguayans. The magnificent steamers plying between Buenos Aires and Montevideo provide a delightful means of reaching ocean resorts in Uruguay without the discomforts of railroad travel. Indeed, the commodious new night boats on this 125-mile run are veritable palaces, and frequently the amusements on board are preludes to the greater diversions awaiting passengers at Pocitos and other places nearby. Many Argentines have also built summer residences at or near Pocitos and with their families help to swell the crowds of pleasure seekers along Uruguay's southern shore.

Ambitious plans have been considered for connecting Pocitos with Ramirez. The latter is another resort considerably nearer the

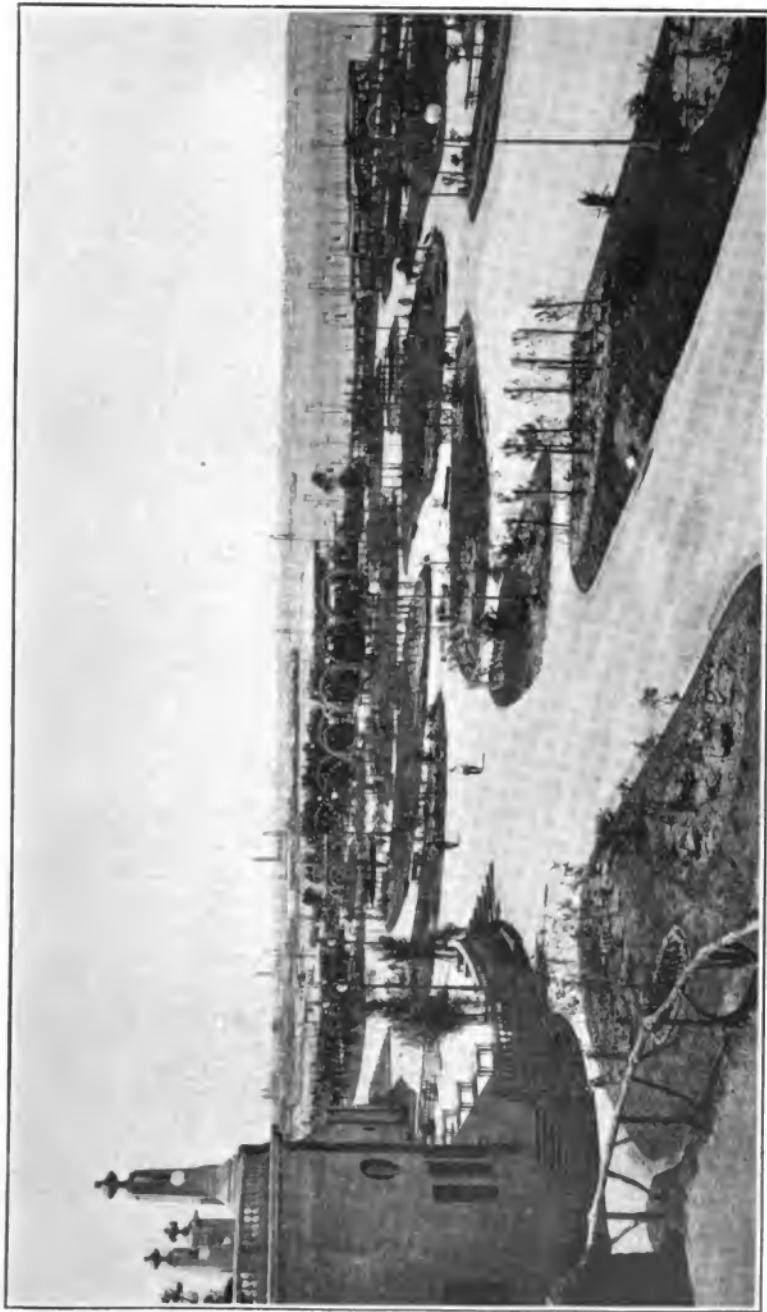


HOTEL AND BATHING BEACH AT RAMIREZ, MONTEVIDEO.

This famous hotel is crowded with people from Uruguay and Argentina during the bathing season. Note the little wheeled dressing rooms, which are moved inward or outward for the convenience of bathers.

URUGUAYAN SEASIDE SCENES.
Upper: Another view of the beach at Ramírez, the large building on the right being the popular hotel, where meals and refreshments are served on the cool verandas. Lower: On the beach at Carrasco, one of Montevideo's newer but none the less popular bathing resorts.





CAPURRO, ONE OF THE DELIGHTFUL RESORTS AT MONTEVIDEO.

From pleasant surroundings and while enjoying the cool breezes from the ocean the visitor may look out over the active harbor, listen to bands of music, and view the various diversions of the Uruguayans.

heart of Montevideo and the plans contemplate extending the esplanade already mentioned from one to the other; still further details of the project include an extension of the esplanade to the city of Montevideo proper, which will form a driveway from 5 to 7 miles in length. This driveway will not only connect the resorts but will be one of the most beautiful as well as delightful features of seaside-resort life to be found in South America. On the south the Atlantic breezes and breakers will render the summer days even more delightful, while to the rear for at least a portion of the distance the Parke Urbano (Urban Park) will add many miles of additional highway as well as various diversions other than those of the seaside.

WANTED, A NEW BREAD

THIS is an attempt to state a large problem, not to answer it. The bread-making grains are the basic food of all civilized nations and are an important food element of many semi-civilized, barbarous, and savage countries. Literally bread is the staff of life. All other foods are secondary.

Secondary foods may be more important than bread with certain classes of society—the rich, for example—in certain small localities, and at certain limited periods; but throughout civilization and even beyond bread and bread alone is the basic human food. What milk is to the infant, bread is to the world.

Why is this? Is it because the bread grains are necessary on account of food elements they contain not contained in other foods? By no means. Bread is not a complete food. Other foods are needed to supply the elements not supplied by bread and even the food elements of bread are contained in yet other foods in larger amounts and in a more easily assimilative form. Is it because bread is the most palatable food? Certainly not. Dry bread is the type of unpalatableness. Is it because bread is the cheapest food? In part, yes.

The bread grains are first, wheat and rye; second, barley, buckwheat, oats, and a few locally used grass seeds like quinua (in South America), millet (in Europe), Kaffir corn (in Africa); third, Indian corn. First is wheat, more broadly used as a bread grain than all others and until now more important than all others combined. Next in importance is rye, the principal bread grain of northern Europe and extensively used elsewhere. As bread grains, barley, oats, buckwheat, quinua, millet, Kaffir corn, and the like are not very important. Indian corn occupies a singular and not easily



Courtesy of States Relations Service, United States Department of Agriculture.

A WELL-CULTIVATED FIELD OF CORN IN THE UNITED STATES.

The corn shown in the illustration grew in the State of Alabama and produced at the rate of 100 bushels of grain to the acre. Corn is of American origin. At the time of the discovery of America it was the principal grain crop of both North and South America and among the more highly organized natives of Mexico, Central America, and Peru it was the principal food crop as well. To-day corn is the leading grain crop of the world, its production exceeding that of wheat by 25 to 30 per cent and rice by at least 40 per cent. As human food, however, corn ranks below wheat and several of the other grains. It is probable that not more than 10 per cent of the corn produced is consumed by man, the remainder being used for stock feed and industrially.

BANANAS AS CUT FROM THE PLANT IN CENTRAL AMERICA.
Bananas and plantains are the leading fruit foods of the world. Boiled or baked they are a substitute for bread. From banana flour an acceptable bread can be made especially when mixed with wheat flour.



definable place as a bread grain. It has been denied that Indian corn, buckwheat, and oats are bread grains. Unquestionable it is that wheat as a bread grain has been in process of rapidly superseding corn even in localities, like the southern United States, where corn was supposed to be most firmly established. Notwithstanding the enormous increase in the production and use of corn in the United States, far outstripping wheat and all other grains combined, yet the fact remained that as bread grains wheat and rye were gaining on corn. Why is it that wheat so far outstrips its rivals that not one of them is able to hold the field against it under normal conditions? Why is it that in time of war as well as in time of peace wheat bread is taken as the standard and every other bread considered as a substitute? The obvious answers to these questions do not answer. It may be that wheat bread tastes better, is easier prepared, keeps better or in some other way is superior to the substitute grains. Each of these assumed facts may be questioned, but admitting them all as true, one may well ask, Why are these things so? Wheat on the whole is no more nutritious than the other grains. In any other form than bread its taste is no better and to most people is not as good as the taste of corn, or buckwheat, or oats. Yet nevertheless as a bread-making material wheat, even at a higher price, does win its way against all the substitute grains, corn included. The answer unquestionably to this apparent conundrum is that man has learned in bread making to bring out all the inherent good qualities of wheat and has not learned this lesson as to any other grain except perhaps rye. In other words, man has learned how to utilize wheat and has not yet learned how properly to utilize other grains. Furthermore, he has neglected the bread-making possibilities of thousands of fruits and vegetables apparently better economically suited for bread making than any of the grains. He has confined his progress in food utilizations to the grains of the Temperate and sub-Arctic parts of the earth and has made but little or no progress in utilizing the food products of the tropical and subtropical parts.

In the advancement of material civilization an important fact stands out prominently. It is this, that notwithstanding the truly marvelous advance of the arts and sciences, achievement in metal working, in steam and in electricity, great discoveries and inventions, each in turn recasting the world on a newer and improved model, all of which has been going on for centuries, and the sum of which is the modern material and industrial world; man has made but little progress in knowledge or utilization of the fruits of the earth which go to sustain himself. He feeds much as his savage ancestors fed ten thousand years ago, upon the same foods prepared in much the same way. The discovery of America brought a knowledge of Indian corn and the potato. Some fruits and so-called veg-



Courtesy of Bureau of Plant Industry, U. S. Department of Agriculture.

A FIELD OF MANIOC IN BRAZIL.

Manioc or cassava has been but little cultivated except under primitive native conditions. Even so, it is one of the principal food crops of tropical America and in many localities the principal food. Under better cultural conditions it is probable that manioc can be grown to produce flour cheaper even than banana flour. In the background of the picture some palm trees are seen growing.



Courtesy of Bureau of Plant Industry, U. S. Department of Agriculture.

RODETTE, THE MILL USED IN BRAZIL FOR GRINDING MANIOC ROOTS.



Courtesy of Bureau of Plant Industry, U. S. Department of Agriculture.

DRIVE WHEEL OF THE RODETTE.

The primitive mechanism shown in the two illustrations is of the type more or less commonly in use in Brazil and other parts of tropical America for reducing manioc roots to pulp. It is a grating or rasping process and is often performed by hand with a dull knife.

etables have been developed in modern times. Yet, with all, bread is more firmly established to-day among civilized nations as the base food than it was when Aeneas fled from Troy or even when Thomas Jefferson penned the Declaration of Independence. Meat, fats, sweets, fruits, and drinks vary somewhat, century by century or maybe day by day, in their relative use, and occasionally new kinds are developed; but bread remains the corner stone and practically unchanged except that its use extends farther and farther into tropical, and therefore into countries not originally bread eating. Most significant of all, it is wheat bread that extends.

Since he first found out how to use fire to cook his food man has made but two other really important food discoveries. These are the preserving of meats and other perishables by salt, smoking, or drying, and the use of leaven in bread making. These two discoveries are both prehistoric. The importance of leaven in bread making can not be overestimated, because without leaven wheat (and rye) would never have become leading food grains. Without leaven the cultivation of wheat and rye would now cease. Without leaven wheat is the most stubborn and intractable of possible foods. Even an amateur cook can make an edible bread from Indian corn, or barley flour and water without leaven, but a professional would be stumped to make anything edible from wheat flour and water alone. But with leaven, yeast or baking powder, wheat becomes the supreme bread-making grain. In other words, wheat, the least suitable of all the grains for use as a human food, with leaven becomes the most suited. This is because it is best suited for making that kind of food, bread, which is the base food of all civilized peoples. Here we are at the root of one of the most significant facts of present-day civilization. Man by the discovery of leaven has been able to raise one grain, and that in its natural state the least promising of all grains, to be not only the prime grain but the prime food as well. This marvel was wrought by prehistoric man. Can it be possible that chemists of this age can not work an equal marvel with corn? Or, if not the chemists, the mechanical inventors? It may be a problem of chemistry or it may be a problem of mechanics.

It is possible to see the great problem of the future from many angles—political, social, economic; but what problem can be greater than the problem of bread? One step in the solution of this problem would revolutionize the world, and there are infinite steps ahead of this one. What this first step will be no one can guess; but that it will be taken no one ought to deny—a step equal in importance to the discovery of leaven. We can not tell what the future holds in the way of invention, but we may indicate one or two possible fields for invention.

Take the grains alone and one grain, corn. In nutritive value and digestibility corn and wheat are approximately equal. Corn is



Courtesy of Bureau of Plant Industry, U. S. Department of Agriculture.

MANIOC IN BRAZIL.

Drying the grated pulp over a slow fire.



Courtesy of Bureau of Plant Industry, U. S. Department of Agriculture.

MANIOC IN BRAZIL.

Drying the grated pulp in the sun.



Courtesy of Bureau of Plant Industry, U. S. Department of Agriculture.

SWEET POTATOES IN THE UNITED STATES.

Harvesting the crop. The sweet potato can be grown anywhere in the Tropics and its cultural limit in the Temperate Zones is nearly as great as that of corn. It can be grown in about two-thirds of the States of the United States.



Courtesy of Bureau of Plant Industry, U. S. Department of Agriculture.

WELL SHAPED SWEET POTATOES.

a delicious "vegetable," wheat is not. Except in the bread form corn more than holds its own with wheat as human food. It is as bread that corn fails. Corn enthusiasts deny this last statement, but the fact is that plain wheat bread is constantly ousting plain corn bread. The enthusiasts themselves eat very little corn bread when compared with the amount of wheat bread they eat. In fact in many localities "corn bread" has come to mean bread made of corn flour, milk, eggs, and often wheat flour added, which, of course, is not bread in the ordinary acceptance of the term as applied to other grains. Something is needed in the conversion of corn flour into bread; something which will work the marvel that leaven works when wheat flour is baked into bread. This may be a field for chemistry or it may be a field for a sister science. No one can guess what this something will be or how applied, yet it may be confidently predicted that this something, a process, an apparatus, or a substance, will be discovered. Certainly civilized man in the twentieth century is not less fruitful in food utilizations than was the prehistoric savage who first used barm in making his bread. Suppose the discovery to be made, see the transformation that would follow. On like soils two and even three times the measure of corn can be produced to the acre as of wheat. First-class land in the United States in sections where wheat and corn are both profitably grown will produce from 80 to 100 bushels of corn to a single acre. This same land will scarcely ever produce over 30 bushels of wheat to the acre. In limited areas of Europe and in the States of Washington and Oregon, sections particularly favorable to wheat, 40 and even 60 and 70 bushels of wheat have been produced on an acre, but, on the other hand, over 200 bushels of corn have been produced on an acre in South Carolina. Two to three times the production of corn to wheat is a fair average.

Corn, even with our present knowledge of its cultural requirements, can be grown over at least three times as large an area of the world's surface as wheat. Corn is the most adaptable of all the grains and the one most readily acclimatized. Its field of profitable growth can probably be extended to five times the field of profitable wheat growth. Give corn its proper place as a bread grain and almost in a twinkling the world's agriculture is revolutionized and with agriculture industrial geography as well.

The scientist who can do this has taken the first step.

It is bread that the world demands and bread it will have, for bread is the one basic food of all civilized peoples. But why make bread of grains only? Rice, potatoes, taro, sweet potatoes, bananas, manioc, and dozens of other starchy food plants contain about the same food values in about the same kinds as the grains. Others, peas, beans, peanuts, and cotton seeds, have greater food values than any grains. All of these have been baked into bread of some



Photograph by Underwood & Underwood.

A WHEAT FIELD IN THE STATE OF WASHINGTON.

The machine in the picture is a combined harvester and thrasher, cutting and threshing the grain at one operation; more often drawn by a traction engine than by horses as here shown.²¹ It is, comparatively, only a few years ago that wheat was cut by hand with the sickle, a one-hand hooked knife about a foot long. The first step in progress was the scythe, a two-handed tool. Then came the improved scythe, the cradle, which delivered the cut grain stalks straight so that threshing could be easily accomplished. These three were man-power tools. Then came the horse reaper, the reaper and binder, the power thrasher, and last we have as above the reaper-thresher combined.



Courtesy of Bureau of Plant Industry, U. S. Department of Agriculture.

TAROS IN HAWAII.

Taros are important food plants in many tropical and subtropical countries, particularly China, Polynesia, Hawaii, Egypt, West Indies, and other parts of tropical America. Like rice, they are grown both wet and dry. The picture shows a field grown wet. The plants are of various plantings; the lighter areas showing those in which the plants have not yet covered the water.

sort, but these breads are only experimental, local, seasonable, or occasional. None of them has yet attained a standing. Why not? Perhaps the first named plants may for this purpose be divided into two groups, in which case the answer to the question for the one group, rice, potatoes, and sweet potatoes, would be the same answer as for corn—that the chemists have not yet discovered how to make a satisfactory bread from rice or potato flour. The answer to the question for the second group, taro, bananas, and manioc, would also be that satisfactory bread has not yet been produced from their flours, but in addition it is apparent that before we can consider these last-mentioned plants as a source of bread production it must be demonstrated that their flours can be produced like the flour of corn and potatoes at a less cost than wheat flour. This has not yet been shown as to taro, manioc, or bananas, although it is indicated in the case of the latter.

Nevertheless it is undoubtedly true that no one competent to form an opinion on the subject doubts that these plants and sweet potatoes, yams, and other starchy roots and fruits of the Tropics can be produced as bread-making material cheaper than northern grains whenever intelligent agricultural effort is put forth in their culture.

To return to the first group and especially to potatoes. The potato is the wonder plant of modern agriculture. Introduced into Europe by the Spanish from Peru it has become a world food, second only to bread, and it is the nearest substitute for bread. The world's production of potatoes is much greater than the production of either wheat or corn—about 50 per cent on the average greater than wheat and 25 per cent greater than corn. This single fact has led overenthusiastic writers to claim for the potato the primacy among food crops, overlooking two other facts—first, that it is water in the potato that gives it its chief bulkiness and weight, and, second, that like corn a large proportion of the crop is used for stock food and for nonalimentary industrial purposes. Wheat is still the prime human food, but the potato gains rapidly. Its bulkiness and the fact that the potato has not the "keeping" qualities of the grains are possibly the only reasons why it has not entirely superseded bread as the basic food of all civilization, as it has so become in limited sections thereof. Potatoes can not be (except by cold storage) carried over from one year to another, and so there are no surpluses to even production. Desiccated and ground into a flour, potatoes "keep" as well as wheat flour, but no one has yet produced a satisfactory bread from potato flour. The magic touch that leaven gives to wheat has not yet been applied to the potato. Somewhere there must be the chemist or other scientist who can solve this great problem.

We have said that first-class land in the United States will produce about 30 bushels of wheat per acre or two or three times this amount



Courtesy of Bureau of Plant Industry, U. S. Department of Agriculture.

A TYPICAL CORM OF THE TRINIDAD DASHEEN.

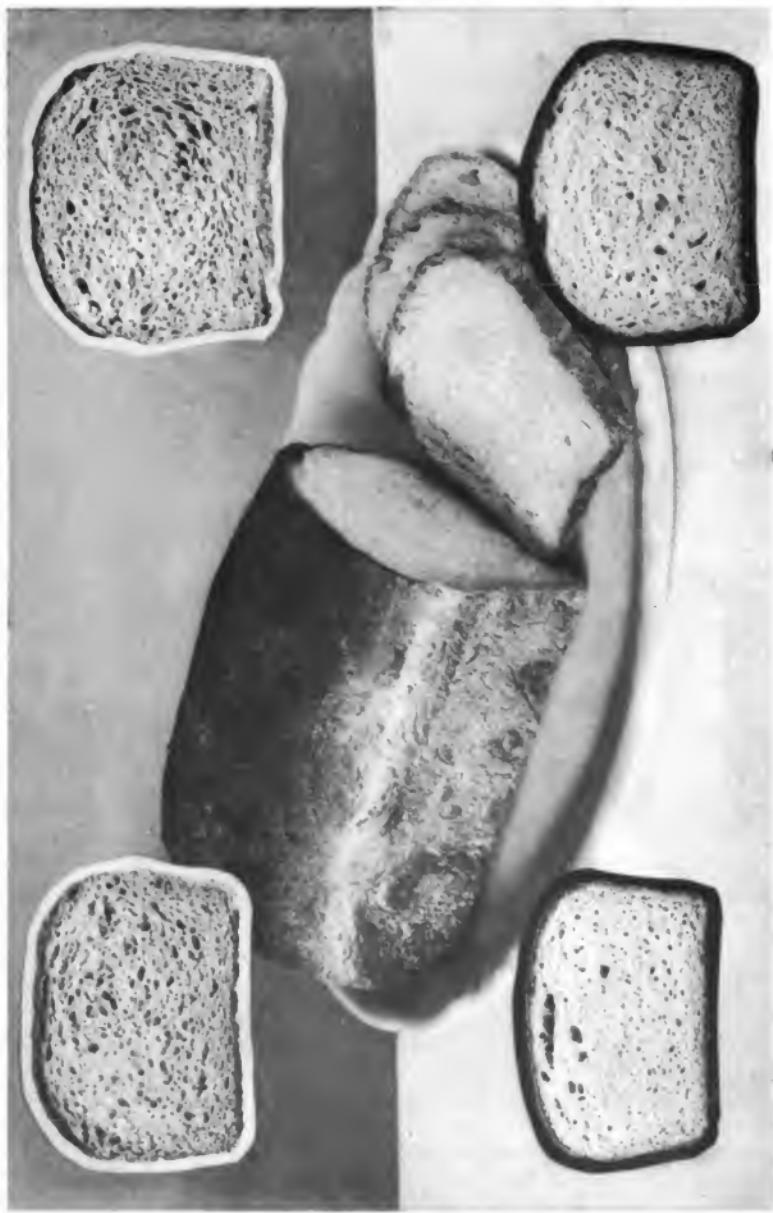
The cooked dasheen, in texture and flavor, is between the chestnut and the potato. The dasheen contains about half again as much protein and half again as much starch as the potato, and is consequently much drier. The corm here shown weighed $2\frac{1}{2}$ pounds. The rings around the corm are the leaf scars, and the large light spots on the lower half are the scars formed by breaking off the side tubers. Some corms are more nearly spherical and others are more elongate, depending upon the soil and weather conditions and the length of the season.



Courtesy of Bureau of Plant Industry, U. S. Department of Agriculture.

TWENTY-THREE POUNDS OF DASHEENS, THE PRODUCT OF A SINGLE HILL.

In the center are five marketable corms, having a total weight of $11\frac{1}{2}$ pounds. Most hills, however, produce only one or two large corms each. At the left are eight first-grade tubers, which weighed $2\frac{1}{2}$ pounds, making a total of $14\frac{1}{2}$ pounds of first-grade marketable dasheens. In the pile of tubers on the right some are of size and shape good enough to be classed as second-grade for market. The remainder are suitable for home table use, for seed, or for stock feed.



Courtesy of Bureau of Chemistry, U. S. Department of Agriculture.

COMBINATION BREADS.

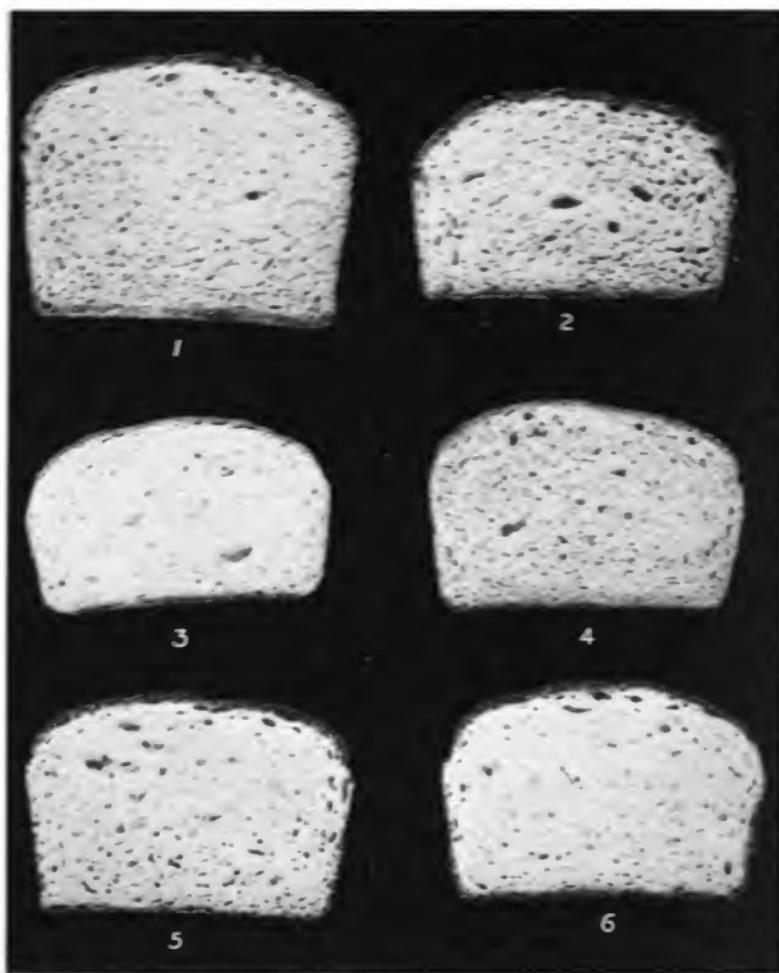
All of the breads were made of 75 per cent wheat flour and 25 per cent substitute by Miss H. L. Wessling, under the direction of Dr. J. A. Le Cleire of the United States Department of Agriculture. The substitutes were: upper left, sweet potato; center, chick pea; lower left, cassava; lower right, potato boiled.

of corn. The same land will produce 200 bushels or over of potatoes. Exceptional land under the most favorable cultural conditions may produce 60 bushels of wheat. The maximum of corn may be 200 bushels, but the maximum of potatoes is but little under 1,000 bushels to the acre. Under ordinary conditions with average land wheat may produce 20 bushels, corn 40 to 50 bushels, and potatoes 125 to 150 bushels to the acre. Two to three times the production of corn to wheat is a fair average, and three to four times the production of potatoes to corn is also a fair average. Reduced to flour and granting that corn and potatoes were both satisfactory bread-making flours, the advantage of potato over corn flour would not be very great, perhaps 25 per cent on the base of acre production, and this advantage might be swallowed up in the greater costs of planting and harvesting. But the problem is not potatoes against corn; it is potatoes or corn against wheat. A satisfactory bread from either corn or potatoes would revolutionize the world.

The sweet potato zone does not extend so far north as the white potato zone, but it extends further south and throughout the Tropics, and on the whole is at least three or four times as great. In the sections where both the sweet and the white potato are produced the yield of the former averages about double that of the latter. On the other hand, the sweet potato is a much poorer "keeper" than the white potato. Both roots are rendered unfit for use by frost, but the sweet potato is injured by continued cold much above the freezing point. Reduced to flour both roots "keep." Where is the magician who will make this flour into bread?

Taros are the primary food of a very considerable part of the human family, but are not yet important foods among the more highly civilized peoples. As vegetables some of the taros are slightly known in Europe and the United States. The taros, yautias, and other of the aroids appear to offer possibilities in the same way as the sweet potato. More, however, must first be known of the cultural possibilities of these plants. What is said of the taros may be said also of manioc.

Bananas and plantains have given rise to much speculation as to their possibilities as primary foods. Banana flour has been produced and bread made therefrom. The cost of producing this flour has been greater than the cost of producing wheat flour, but this is probably only a temporary condition. There appears to be no good reason why banana flour may not be produced much cheaper than wheat or any other grain flour if the cultivation of the fruit is undertaken with this end in view. It may be said for bananas and plantains that the flour produced from them appears to present less difficulty in its adaptation to bread making than the flour of potatoes, sweet potatoes, taros, manioc, or even corn. The chief difficulties in the utilization of bananas and plantains as bread-making material



Courtesy of Bureau of Chemistry, U. S. Department of Agriculture.

COMBINATION BREADS.

Other combination breads baked under Dr. Le Clerc's direction of 75 per cent wheat flour and 25 per cent substitutes. The substitutes were: No. 1, rye; No. 2, made entirely of wheat unbolted; No. 3, potato flour; No. 4, banana flour; No. 5, pea flour; No. 6, bean flour.

appear to be in the economic production of the fruit. At present nearly all experiments have been made along the line of utilizing for flour production the small, overripe, and waste bananas not suitable for shipment as fresh fruit. But little can be hoped from such efforts as this. If the banana is to be something more than a fruit, important though it be as such, it must be grown for the larger use and the varieties selected must be with the larger end in view. Recent experiments made by Dr. J. A. Le Clerc and his assistants, of the United States Agricultural Department, as to the baking possibilities of wheat flour substitutes used in connection with wheat flour in the proportion of 75 per cent wheat flour and 25 per cent substitute, show that acceptable bread can be made under the formula from all of the plant foods mentioned in this article. Very few experiments have been made by any one in the use of the substitute alone and such experiments do not promise success. The secret is yet to be found.

Let us in brief summarize the conditions of this great problem of food. Man has as yet but scratched the surface of the earth's possibilities in food production. He knows but little or nothing of what may be done with some of the most widely known plants. He either is or is rapidly becoming a bread eater. He does not know how to make bread of anything except grain, and of the grains he has, in reality, subdued only one, wheat (and its half-brother rye). His progress since historic times in food production and in knowledge of plants suitable for food has been very small. He has developed some secondary foods but none of these have become primary. His chief progress in agriculture has been with the tools with which he tills the earth. His agriculture is better than that of his savage ancestor simply because his tools are better. The real agricultural scientists have been men like McCormick, who invented the reaper, and the man who put the moldboard on the plow, thereby inverting the top soil instead of simply furrowing it. Wheat is no better suited for bread than corn, potatoes, and dozens of other plant foods. Wheat has become the standard for bread, and all the world is demanding wheat bread simply because the world does not know how to make bread of these other foods. A process or an ingredient (like leaven in wheat bread) is needed to solve this problem. Some of the other plants, maybe all of them, require more knowledge as to methods of cultivation, varieties, seed selection, adaptability to climates, soils, and rainfall. Man knows but little about Temperate Zone agriculture and its food plants; he knows practically nothing whatever about the Torrid Zone. He has not even begun to utilize the hot countries. Wonderful as is man and marvelous as are his other works, he is only a step above the dumb beast in a knowledge of what he eats and how to prepare it.—W. C. W.

PAN AMERICA IN THE MAGAZINES

Old Mexico and new in Querétaro is the title of an interesting historical sketch by United States Consul John R. Silliman in the April, 1917, number of Scribner's Magazine. The following excerpts, embodying the main features of Mr. Silliman's historical retrospect and brief descriptions of the picturesque old ecclesiastical structures of the city, together with the accompanying illustrations, are reproduced by the courtesy of Scribner's:

It is a January night in old Querétaro. Soft moonlight and the resplendent radiance of southern stars lend an added charm to picturesque old houses, tiled towers, and lofty domes. One might imagine it was summer time. Roses are in full bloom. Other fragrant flowers perfume the night. The brilliant poinsettia and the magenta-hued Bougainvillea only await the coming of the dawn to reveal their riotous growth and their gorgeous glory. The pretty Zenea plaza, with its profusion of trees, its ornamental pavilion, and its artistic fountain, is ablaze with light. It is thronged with Constitutional soldiers, their admirers, and their followers, for Querétaro is now, for them, the provisional capital. Military chiefs from all over the country are here. Heads of departments from the city of Mexico are here. Newspaper reporters and magazine writers are here. Scantly clad, dark-featured, stolid-looking Indians from the neighboring villages and mountain hamlets are here. Venders of soft, highly colored drinks, fruits, dulces, and sugar cane are doing a thriving business, and newsboys are crying the evening papers. It is plainly a parade of the people. Those who wear purple and fine linen and who link Querétaro to the old régime are conspicuous by their absence. They are behind the closed doors and windows of their fine old homes, or they are in exile far away. Obregon's military band of 50 pieces, lately arrived from the north, is playing. They have just finished the "Sextette" from Donizetti's *Lucia di Lammermoor*.

As I look from my hotel window directly out upon the motley multitude and the khaki-clad soldiers diverting themselves after a long campaign, I recall that this is not the first time old Querétaro has seen a revolution face to face; that the sleepy old city has not always slumbered; and that for it there has been a historic, portentous past as well as an animated, portentous present.

It has been an interesting experience for me to occupy some of my surplus time in strolling through quaint streets, entering reverently great, costly, time-worn but age-enduring temples, monasteries, and convents, and to study the story of this picturesque place. Natural conditions have contributed to conservatism in Querétaro. Agriculture is the principal industry of the surrounding country, and, while it is true that the great Hercules cotton mill is in the canyon near by, productive haciendas have really made the city rich. Their Spanish and Mexican owners have always consistently declined to sell, and, as there are no special mining or other interests near, there has been little to attract foreign investment. Very few foreigners have settled here. I was told that even in the favored days of the prerevolution period the total foreign population reached only as many as nine.

The average American traveler knows Querétaro as the place where opals are offered at the trains and, possibly, as the place where Maximilian was executed. Very few foreign passengers, as such, ever see the lonely Hill of the Bells, or the silent,



Courtesy of Scribner's Magazine.

THE ZENEÁ PLAZA IN QUERÉTARO, MEXICO.

On this beautiful little plaza fronts the great Church of San Francisco, founded in 1613 and made the first cathedral of the diocese. In one of its chapels, under marble tablets which record their virtues, lie the remains of the first two illustrious bishops of Querétaro.

solemn brownstone chapel which marks the spot where, on a June morning 50 years ago, a fateful tragedy was enacted. It is in plain view from the trains of both trunk lines which pass the city. Tourists bound south find more to attract their attention here than at any stop they have made since leaving the border. One of the best known guidebooks gives a carefully prepared description of Querétaro which fills nearly 10 closely printed pages. Nothing is said, however, of a most interesting and important international incident which occurred here in the month of May, 1848, and which directly connects Querétaro with the history of the United States.

"In Querétaro," says a native chronicler, "was signed the treaty of peace with the United States in 1848. Querétaro, at the call of one of her native sons, re-established the general government, overthrowing Santa Ana. It is the only place which has energetically opposed Protestantism. It is the only place which possesses an aqueduct comparable to the work of the Romans. Querétaro, after a memorable siege of three months, was the tomb of the empire in 1867." In addition to all this, and much more, the author cites a poet who calls Querétaro a place of hospitality, sincerity, and patriotism.

The old Spanish writers have a story that Querétaro was founded in 1446 and that the monarch, Moctezuma, made it one of the northern fortified outposts of the Aztec Empire. The place was evidently well known prior to the conquest.

History really began for Querétaro on Sunday, June 25, 1531, the calendar day of St. James, or Santiago, in Spanish. On the early morning of that day 25,000 Chichimecas, armed with bows and arrows, placed themselves in battle array on the rocky height which is the southern boundary of the town to resist the progress of the audacious Spanish invaders. These, strange to say, were led by two Christianized Indian chiefs. Their new names are given as Nicolas de San Luis Montafiez and Fernando de Tápia, who is described as being a son of the Emperor King of Tula de Xiltopec, lying to the south. He was named chieftain and captain by Don Carlos V of Spain. The Indians made a desperate stand. The battle continued furious and doubtful the whole day. Finally, when all were worn and weary, a most wonderful thing occurred. Across the valley, in the canyon to the south through which the Spaniards entered, there seemed to be brewing a tremendous storm, and there, in plain view, sharply outlined across the boiling black cloud, appeared a celestial vision. It was the gigantic, mounted, militant figure of St. James, charging with drawn sword to take the part of the Christians. Above the saint a shining cross was gleaming. This was too much for the poor Indians of rough, untutored mind. The barbarian Chichimecas fell down and fell over each other in eagerness to surrender. They then and there accepted a peace which is said to have at once Christianized and enslaved them. The chronicler states that they were immediately baptized and taught to make the sign of the cross with the right hand. A stone cross was erected on the blood-stained height, and the conquerors sang the fourth gospel, following this with the celebration of the first Christian mass.

Who can wonder, then, that Querétaro has been *muy católico* ever since that memorable day, or that it was given by his Catholic Majesty Philip IV the official name of Santiago de Querétaro, which it has borne through the centuries; or that, when the cathedral was built, a stone figure of the militant saint was placed above the archway in the great door, where it remains to this day. In due time the first of the many churches of Querétaro was built to commemorate the victory over the savages. It is the massive, immense, stately, picturesque structure called the Temple and Monastery of the Holy Cross. In a glass case above the high altar is still preserved the carved stone cross before which conquerors and conquered bowed after the bloody battle of Sangremal.

On the 21st of June, 1821, in this monastery, Luaces, the Spanish commander, surrendered to the liberal general, Augustine de Iturbide, thus breaking a foreign yoke which Querétaro had worn for 290 years. Maximilian, on his arrival at Querétaro after



Courtesy of Scribner's Magazine.

TWO MONUMENTS IN QUERÉTARO, MEXICO.

Upper: The beautiful monument to Doña Josefa Ortiz de Dominguez, heroine of the revolution of 1810. Tower of the Church of San Antonio shown in the left background. Lower: Statue of the Marques de la Villa del Villar, the man who conceived the plan of bringing drinking water to the city from a spring in the canyon 8 kilometers away. The monument was erected in the Plaza de Independencia in 1843, just 100 years after the death of the Marques.

abandoning the city of Mexico, took up his residence and headquarters in this same strong fortress of La Cruz. From it the republicans forced him by an attack on the 15th of May, 1867. He was soon brought back to it a prisoner, and from it he was taken to the small, humble cell in the Convent of the Capuchins, whence, a little more than a month later, he was led to his death on the Hill of the Bells.

The most notable and striking monument in the historic cemetery formerly attached to the church of the Holy Cross is that erected by the nation to the memory of Doña Josefa Ortiz de Dominguez, heroine of the revolution of 1810, whose remains were brought from Mexico City to Querétaro, her home, and interred in this burial ground on the 23d of February, 1894. Students of Mexican history will recall her romantic story. She was the wife of the corregidor, or representative of the viceroy, at Querétaro. She is therefore known as La Corregidora. Although associated with royalty, she was a thorough republican and was well informed concerning the meetings, the proceedings, and the widespread conspiracies of the revolutionary club organized at Querétaro. Her husband, the corregidor, knew of her sympathies, but appears not to have called her to account. Finally it came to pass that he felt he must arrest the members of the club, as he had gotten wind of a proposed uprising. To avoid possible trouble at home he locked up his wife in her room in the second story of her home when he went out one night to order the arrests. Anticipating something of this kind, she had arranged with a man servant to come to her when she should stamp on the floor. As soon as her husband left the house she gave the signal, and, speaking to her servant through the keyhole, directed him to mount a horse immediately and hurry north to the town of Dolores and inform Hidalgo and Allende that the plot had been discovered. The servant was faithful to his mistress. Hidalgo arranged for the uprising at once, and this is the reason that the celebration of Mexican independence always takes place at midnight on the 15th of September instead of on the 1st of October, as originally planned. In the museum of the State capitol may be seen under glass the large hand-made lock with the keyhole through which the corregidora spoke. Doña Josefa's husband was deposed and imprisoned by the Spanish Government. She herself was sent to the city of Mexico and kept there until the day of her death. The new monument, erected to her memory in the plaza near the center of the city, is really one of the most striking and interesting things to be seen in Querétaro. Probably it is one of the very finest monuments of its class ever erected to the memory of a woman. The design is a single lofty white stone column surmounted by a more than life-size standing female figure in bronze with hand uplifted.

Another notable monument is a white shaft which gracefully rises from the green foliage of the Alameda. It is surmounted by a statue of Columbus and was unveiled on the four hundredth anniversary of his discovery of America.

In the center of the Plaza de Independencia is a statue of the man who conceived the bold idea of bringing drinking water to the city from a spring in the canyon 8 kilometers south. His proposition was the building of a long, high aqueduct across the valley which would deliver the water directly to the Plaza de la Cruz, the highest point in the city. This great work was begun on the 26th of December, 1726, and completed on the 15th of October, 1735, at a cost of a little more than 130,000 pesos, of which the man on the pedestal contributed considerably more than half. The monument was a tardy recognition, for it was not begun until 1843, just 100 years after his death. The front of the monument bears this inscription: "The people of Querétaro to their distinguished benefactor, Don Juan Antonio de Urrutia y Arana, Marques de la Villa del Villar del Aguila, erect this monument in testimony of gratitude, 1892." The great aqueduct which the marquis planned and carried to successful completion nearly 200 years ago is to-day furnishing the same pure, sparkling water to the city.

A conspicuous feature of Querétaro landscape is the many fine old Catholic churches, monasteries, and convents. They are prominent at almost every turn. One is impressed constantly with their number and their immensity, and finds himself wonder-



Courtesy of Scribner's Magazine.

SECTION OF THE QUERÉTARO AQUEDUCT.

The Marques de la Villa del Villar conceived the idea of bringing pure drinking water to the city of Querétaro by building this long, high aqueduct across the valley from the spring 5 miles away which would deliver the water to the Plaza de La Cruz, the highest point in the town. The work was begun in 1726 and completed in 1735, at a cost of about 130,000 pesos, of which sum the Marques contributed about half. The great aqueduct still furnishes the city an adequate supply of pure, sparkling water.



Courtesy of Scribner's Magazine.

FRONT OF THE CHURCH OF SAN FELIPE DE NERI.

"A conspicuous feature of Querétaro landscape are the many fine old Catholic churches, monasteries, and convents. They are prominent at almost every turn. One is impressed constantly with their number and their immensity and finds himself wondering why in this comparatively small city such vast church properties and such costly establishments were maintained."

ing why in this comparatively small city such vast church properties and such costly establishments were maintained. The oldest, most historic, and mother of them all is the church and monastery of the Holy Cross. Probably the most elaborate and costly was the church and convent of Santa Clara. The interior of the main chapel, which is still in use for daily services, has walls literally covered with curios, carved, gold-plated Churrigueresque work from floor to lofty ceiling.

Another fine example of the magnificent and costly proportions taken by ecclesiastical construction in the palmy days is the great church and convent of Santa Rosa. It had its beginning in 1669. In 1727, by an order from the King of Spain, it was given the title of the Royal College of Santa Rosa de Viterbo. The present structure occupied many years in building and was not finally completed and dedicated until the year 1732. Its exterior is notable for its oriental, Moorishlike, tile-topped towers and dome, and for two strange, immense flying buttresses on the western, or street, front of the edifice. The photograph is a failure in presenting their true proportions. The interior walls of the church are covered with the same elaborately carved, gold-plated Churrigueresque work, and the delicate, artistic, fine iron-grille screening which is such a feature in Santa Clara. There are many paintings in Santa Rosa. They are mostly of the apostles and the saints. In the sacristy, a long, lofty, well-lighted apartment, are the something over life size papier-mâchélike figures of the twelve Apostles. They all have the most unhappy and unattractive expressions and are arranged along the base of what is said to be the greatest work of Tresguerras, a noted Mexican artist, who excelled in painting and architecture. It occupies the entire end of the room, extending clear to the ceiling. It is said to be one of the most interesting mural paintings in Mexico.

The church of San Antonio dates back to 1613. It stands at one end of a beautiful little plaza and has at one side in front of the entrance to the old chapel, a small court where shrubbery grows and a great Bougainvillea climbs high up the wall. The church has several times been renovated. Its pure Spanish tower is one of the most attractive in the city. The interior is subdued and modern. An interesting feature of this church is the Santa Scala, or Holy Stair, in the connecting chapel, said to be modeled after a celebrated Holy Stair at Rome.

The great church of San Francisco, occupying the most central site in the city, fronts on the Zenea plaza. It was founded in 1613, and was made the first cathedral of the diocese. In one of its chapels, under marble tablets which record their virtues, lie the remains of the first two illustrious bishops of Querétaro.

The church of El Carmen was founded by the Señora Doña Isabel Gonzales in 1614. Like so many of the other churches in Querétaro, it had originally a convent in connection with it. Now it is said to be the most fashionable and aristocratic church in the city.

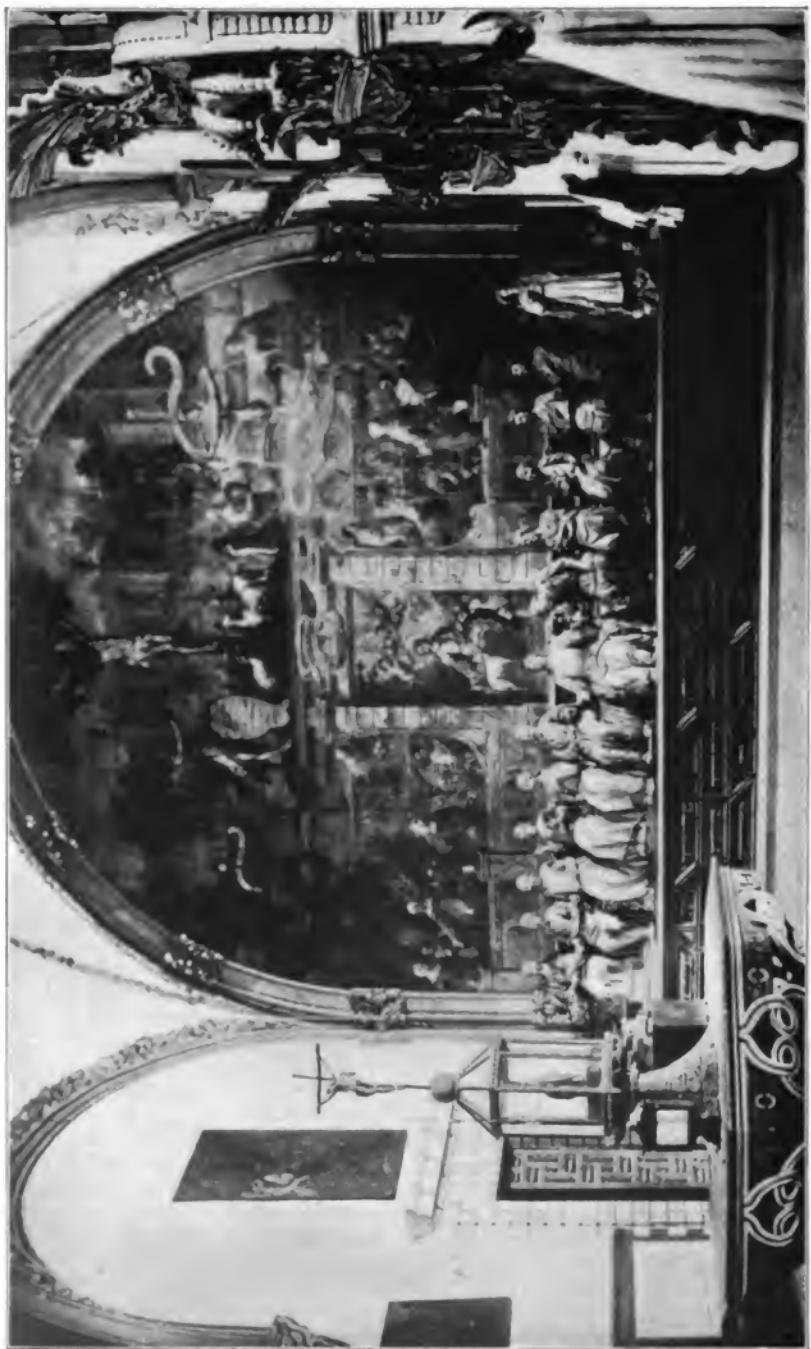
The church and monastery of San Augustine, founded in 1731, has furnished for the general government of Mexico probably the most unique telegraph office in the world. The Government appropriated the monastic part of the structure for public use many years ago. The front was remodeled during the administration of President Diaz, as a marble tablet placed at the head of the great stairway states, and the Federal telegraph office was installed in one of the sections of the second story.

The establishment called San José is just across the street from the elaborate and costly church and convent of Santa Clara. It was for a time conducted as a hospital. The main chapel is now used as a public library. In the rear of the library are the public-health headquarters and offices, occupying quite a number of rooms and spacious corridors with the different departments. Back of the health office, but still a part of the original buildings of San José, is a vast structure of many cells and corridors, which are at present unused and unknown to many. They are never seen by tourists or other strangers. Probably many of the present inhabitants of the city do not know of this place. It was formerly occupied by hundreds of flagellantes

A WONDERFUL MURAL PAINTING IN THE SACRISTY OF SANTA ROSA.

Courtesy of Berthuer's Magazine.

One of the finest examples of ecclesiastical architecture in Querétaro is the great church and convent of Santa Rosa. Among its remarkable mural decorations is this painting, of which Mr. Stillman writes—"In the sacristy, a long, lofty, well-lighted apartment, are the something over life-size paper-mâché figures of the twelve apostles arranged in a row along the base of what is said to be the greatest work of 'resqueiros,' a noted Mexican artist who excelled in painting and architecture. It occupies the entire end of the room, extending clear to the ceiling. It is said to be one of the most interesting mural paintings in Mexico."



penitentes during Lent. The practice of self-scourging, which spread over Europe in the Middle Ages, was introduced into Mexico by the zeal of the Dominicans. It was long faithfully observed in Querétaro.

Teaching gardening in elementary schools is the subject of an article in a recent number of the Spanish edition of the *BULLETIN*, and while originally intended to explain to Latin American readers this recent innovation in the United States which is intended to utilize the spare time of the many thousands of school children of the country, there may be features of the story that will be informative and interesting to the readers of the English edition; hence the following English version:

During recent years, especially for the past quarter of a century, more or less dissatisfaction with prevailing methods of teaching and also with the subject matter taught in educational institutions has been manifested throughout the intellectual world. At first this dissatisfaction found expression in criticisms of the established forms and features of higher education in high schools, colleges, and universities. The old idea that advanced education was valuable only from a cultural or professional standpoint had obtained for so many generations that the utilitarian view that education should be also practical and immediately applicable to real problems of living and well-being met with considerable opposition. Most people are inclined to be conservative, and almost all radical changes meet with more or less stubborn resistance. The advisability of teaching young men and women various trades and handicrafts which would enable them to make a living for themselves and to apply specialized knowledge to work which would be practical and profitable as soon as they entered real life was so patent, however, that the idea grew in popularity. In the course of time agricultural colleges, engineering schools of various kinds, technological schools, domestic science schools, etc., were established, either as independent institutions or as special departments of colleges and universities already established. Even in high schools branches of technology and classes of domestic science were introduced. Thus higher education, escaping from its former restricted sphere of being either cultural or professional, began to occupy a much broader field, and now many facilities are offered to the young men and women who are so fortunate as to be able to take advantage of them to prepare for special vocations in life.

The success of these innovations in higher education once established, the next logical step was the idea that even in the elementary schools practical features might be added to the branches usually taught—features that would add useful knowledge and special training and at the same time perhaps add to the interest of the child in school life and give profitable direction to its energies during some of



Courtesy of *Sunset, the Pacific Monthly Magazine*.

A SCHOOL GARDEN IN CALIFORNIA.

Many California cities are awakening to the wonderful opportunity afforded by their mild winter climate to have school gardens that are worth while. They need not wait for the snow to get out of the way so that they may grow a few early vegetables before the school term ends. They may begin in the autumn and continue their gardening throughout the entire school year.



Courtesy of *Sunset*, the Pacific Monthly Magazine.

A CALIFORNIA SCHOOL GARDEN IN JANUARY.

Vegetables, rather than flowers, are grown so that pupils and parents may see that school gardens are useful things and point the way to gardens at home. The pupils are allowed to take home the vegetables they raise, each child having assigned to it a certain plot of ground which for the time being is his own, and he enjoys the fruits of his own labor. The garden teacher has supervision of the whole and every child receives its share of instruction.

the hours spent out of school and often wasted in harmful idleness. Boys and girls, ranging in age from 6 or 7 to 14 or 15 years, who attend the elementary schools, have only a fraction of their time occupied in their regular studies. Why not devise a form of activity under the direction of the school which might be made instructive, entertaining, and even financially profitable by utilizing the spare time?

In the United States the problem is being solved in what appears to be a very satisfactory manner. This solution consists in the establishment of courses of practical lessons in gardening and of the actual cultivation of "school gardens." These may be located on land belonging to the school, on vacant lots, the owners of which permit the school to use them for this purpose, or preferably may be the back yards of the homes of the children. Regardless of the location or ownership of the plots of land cultivated, the work and instruction is under the direction of a special teacher employed by the school authorities. The plan is outlined in a recent circular issued by the Bureau of Education of the United States Department of the Interior, and while the publication deals with conditions in the United States alone the salient features of the plan, with perhaps some modifications, could doubtless be applied to many of the cities and larger towns of other American countries. The situation with reference to the school children of the United States and the plan for home gardening are set out as follows:

There is need of suitable educative, purposeful, productive occupation for millions of school children in our cities, towns, manufacturing villages, and suburban districts who now have no proper employment out of school hours. In the cities, towns, villages, and suburban communities of the United States there are approximately 13,000,000 children between the ages of 6 and 20. Of these about 9,750,000 are enrolled in the public and private schools. The average length of school term in the cities is 180 days. The average attendance is 120 days.

Probably 5 per cent of these children are away from home during the summer vacation months with their parents at summer resorts or visiting in the country. Between 5 and 10 per cent are employed in some useful, healthful, productive occupation. Eighty-five per cent remain at home without proper employment for any large part of their time. Most of them have little opportunity for play. Some of them work a portion of the time at occupations at which they earn very little and which are not suited for children of their age. The dangers of idleness and unsuitable occupations are very great for all. A large majority belong to families the members of which must earn their living by their daily labor and whose earnings are so meager that anything which can be added by the children is needed. Many of them live in small, crowded rooms and in poorly furnished houses. More than two-thirds of them leave school at 14 years of age or earlier to become breadwinners. Because of lack of proper contact with nature and the experience which comes from suitable, purposeful, productive occupations, most of them do not get from their years in school such education as they should.

Home gardening done by the children under the direction of the schools seems to offer what is needed. In all of the manufacturing villages, suburban communities, and smaller towns, and in the outskirts of the larger towns and cities, there is much



Courtesy of the Bureau of Education, U. S. Department of the Interior.

EXAMPLES OF SCHOOL HOME GARDENS.

Upper: A boy of 15 years of age who raised \$110 worth of vegetables in his garden in one season.
Lower: A school boy of only 9 years of age is here shown cultivating his garden in the city of Birmingham, Ala.



Courtesy of the Bureau of Education, United States Department of the Interior.

A SCHOOL GARDEN IN NEW YORK CITY.

The school garden, in its restricted meaning, is especially adapted to the congested areas of large cities, where available land is scarce. In many cases it is the only solution to the problem of providing garden plots to the children of the neighborhood. So scarce is land in some places that it becomes necessary to assign the children to plots not exceeding 10 or 12 square feet in area. While such areas are too limited to demonstrate the possibilities of home gardening in an adequate manner, the children derive much pleasure and acquire considerable valuable knowledge from even such restricted experiments.

valuable land in back yards, vacant lots, and elsewhere which might be used for this purpose. In every school in a community of this kind there should be at least one teacher who knows gardening both theoretically and practically. This teacher, who should, of course, be employed 12 months in the year, should teach the elementary sciences in the schools during school hours and should, out of school hours, direct the home gardening of the children between the ages of 6 or 7 and 14 or 15. If possible the teacher should have the assistance of an expert gardener, so that the work may be done in the most practical and profitable way. The teacher and the gardener should help the children find the plots of ground near their homes best suited for garden work, aid them by some cooperative method in having the lots properly plowed and prepared for cultivation, help them select seeds, and show them how to plant, cultivate, and harvest, so as to obtain the best results. The teacher should spend the afternoons and Saturdays of winter, spring, and fall, when school is in session, and all of the vacation days of summer, if there are summer vacations, visiting the children in their homes, directing the work, and giving to each child such help as it most needs. Once a week or oftener, during the vacation months, the teachers should assemble the children in groups for a discussion of their work and of the principles and methods involved.

Vegetables, berries, and fruits grown should be used first as food for the children and their families; then the surplus should be marketed to the best advantage. Through the help of the teacher this can be done in a cooperative way. Ten or 15 cents worth of vegetables each day from the gardens of 200 children would amount to \$20 or \$30. In summer and fall, when the surplus is large and can not be marketed to advantage, the teacher should direct and help the children in canning and preserving for winter home use or for sale.

It is difficult to estimate all the results of this plan once it is in full operation throughout the country. For the children it will mean health, strength, joy in work, habits of industry, and understanding of the value of money as measured in terms of labor, and such knowledge of the phenomena and forces of nature as must be had for an understanding of most of their school lessons. They will also learn something at least of the fundamental principle of morality, that every man and woman must make his or her own living; must, by some kind of labor of head, hand, or heart, contribute to the common wealth as much as he or she takes from it; must pay in some kind of coin for what he or she gets.

The economic and sociological results are also worthy of consideration. Experiments already made show that with proper direction an average child of the ages contemplated can produce on an eighth of an acre of land from \$50 to \$100 worth of vegetables. A third of the children of the city schools of the United States might easily produce \$300,000,000 a year.

This plan in full operation would offer a valuable supplement to the child-labor laws. A boy 10 or 12 years old, with a small plat of ground, working under careful direction, can produce more for the support of the family than could be purchased with the same boy's wages working in factory, shop, or mill. Children should not be ground in the mills nor sweated in the factories and shops; their strength should not be sapped and their nerves racked by working in the heat and dust and noise of indoors; yet all children should learn to work. It is good for them, and they enjoy it.

* * * . * * * * *

Probably the most valuable result of this plan would be found in the fact that it would make it easy for most children to attend school three or four years longer than they now do—a thing more and more desirable, since education for life and citizenship in our industrial, civic, and social democracy can not be obtained before the age of adolescence. In some way all children must have instruction and training after the years of childhood, or state and society must suffer for the failure. If children can contribute to their support while in school, they may remain in school much longer than if they must be carried as dead weights until they quit school to go to work.



Courtesy of the Bureau of Education, U. S. Department of the Interior.

EXAMPLES OF SCHOOL GARDENING.

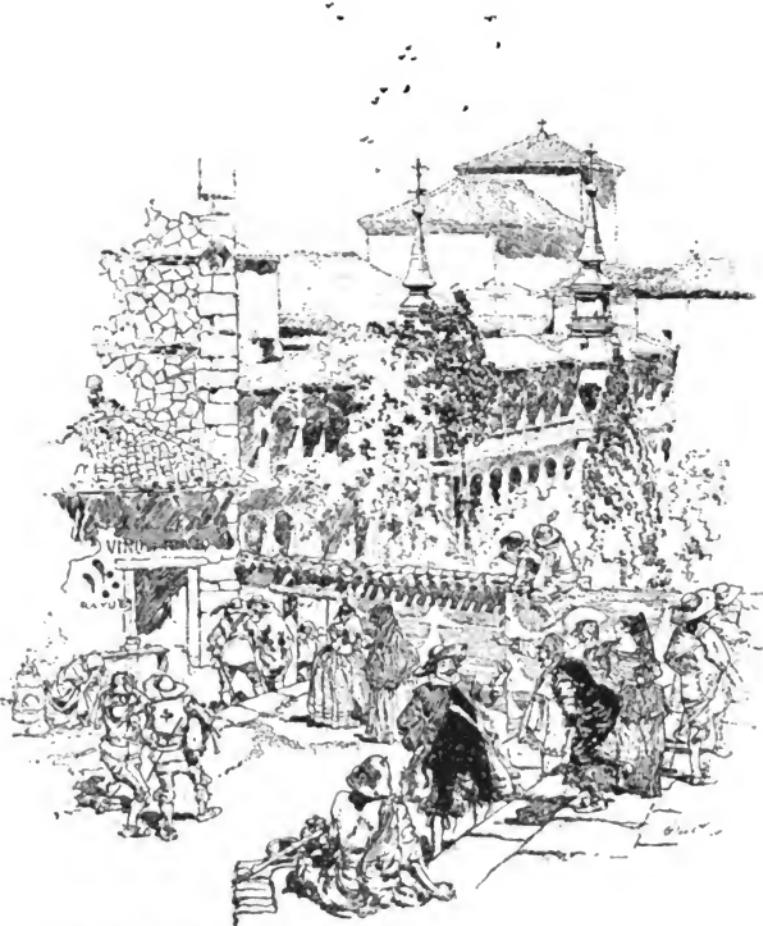
Upper: City children who have been brought to the country to make their cooperative school garden. This plan has been found advisable when no vacant areas are available in the city itself for some of the children. Children who live in apartment or tenement houses, where no back yards are at their disposal, are provided transportation by the school authorities or by philanthropic people and are taken out beyond the congested areas of the city to make their gardens. Lower: The garden of a school boy at Waltham, Mass., about one-fourth of an acre in extent. All of the work is done by the boy himself, under the direction of the garden teacher of the school he attends.

The fact that a generation of men and women would be produced who would find their recreation, after the close of their labor day of eight hours, in profitable home gardening is not the least important reason for the introduction of this plan. Compared with the results, the cost would be inconsiderable. No addition to the number of teachers would be required. It would only be necessary to require different preparation for one teacher in each school. * * *

The special teacher alluded to, as suggested in the outline of the plan, is employed for the entire 12 months of the year and is usually paid from \$300 to \$500 per year more than the other teachers, who generally have three months of vacation. By utilizing the back yards of the children's homes the hearty cooperation of the parents is secured. In some of the cities in the United States an expert gardener is first employed to teach practical methods to at least one teacher in each of the city schools. These teachers then take charge of the work of the children, and splendid results have been obtained. It has been found that the children enjoy the healthful, active, profitable work, and the results in reducing the cost of living in such communities as have adopted the plan have been eminently satisfactory.

Daniel Urrabieta Vierge, the greatest of all pen and ink illustrators, is the subject of an appreciative sketch by Annie L. M. Kimball in The Journal of the American Institute of Architects. So little is generally known of Vierge, except perhaps in the ranks of his brother artists, that with the permission of the Journal much of the article is herewith reproduced. In his own sphere Vierge was as great as was Velasquez in the sphere of painting. His genius created a new school, and stamped itself on the art of illustration for all time. In Spain, his native land, and in France, the country of his adoption, his work gave him undying fame, and it is gratifying to find that even in the United States appreciation of his genius is becoming more general. The following excerpts and accompanying illustrations give some idea of the character of the man and the genius of the artist:

There has been but one Vierge. Evidently born to illustrate the *picturesque* romance, no one else unless Fortuny—yet scarcely Fortuny—could so render the unspeakable dash and swagger of these vivid figures of Andalusia and Castile—this marvelous panorama of students in flaunting draperies and flapping hats, of priests, hidalgos, beggars, gitanos, swashbucklers in rags—this black-and-white necromancy that has color, the shadows that quiver, the lights that sparkle, the shapes that live, move, and have their Spanish being in the very atmosphere of Spain. A certain lightness and gayety, due no doubt to the admixture of Gallic blood with the more serious, dignified quality of the Spanish strain, are characteristic of the artist's work. With what brio, what joyous abandon, he peoples his stage. What delightful and delicate settings, what fairy scene painting he lavishes on it. A special vocabulary, indeed, does one need to describe it. His wizard's pen transmutes the plainest material into enchanting fabric for his own purposes. As an example, may it be permitted to quote Mr. Cortissoz, referring to Vierge's use of the old Roman aqueduct at Segovia in one of his illustrations? "Who else could have introduced that cyclopean structure into a design, the picturesqueness of which is so light in hand, with such aptness



Courtesy of The Journal of the American Institute of Architects.

ONE OF THE "PABLO DE SEGOVIA" ILLUSTRATIONS BY VIERGE.

"There has been but one Vierge. Evidently born to illustrate the picturesque romance, no one else unless Fortuny—yet surely Fortuny—could so render the unspeakable dash and swagger of these vivid figures of Andalusia and Castile; this marvelous panorama of students in flaunting draperies and flapping hats, of priests, hidalgos, beggars, gitans, swashbucklers in rags; this black-and-white necromancy that has color; the shadows that quiver, the lights that sparkle, the shapes that live, move, and have their Spanish being in the very atmosphere of Spain."



DANIEL URRABIETA VIERGE AND TWO OF HIS DRAWINGS.

Courtesy of The Journal of the American Institute of Architects.

"His wizard's pen transmutes the plainest material into enchanting fable for his own purposes." The two illustrations are from "Pablo de Segovia," the one to the right showing the old Roman aqueduct at Segovia in the background. It was in regard to this illustration that a great art critic wrote: "Who else could have introduced that cyclopean structure into a design, the picturesqueness of which is so light in hand, with such aptness and such skill?"



Courtesy of The Journal of the American Institute of Architects.

A VIERGE ILLUSTRATION FROM "PABLO DE SEGOVIE."

"A certain lightness and gaiety, due no doubt to the admixture of Gallic blood with the more serious, dignified quality of the Spanish strain, are characteristic of the artist's work. With what brio, what joyous abandon, he peoples his stage. What delightful and delicate settings, what fairy scene painting he lavishes on it."

and such skill?" Who, indeed, would have thought of trying it? Yet there it is, like lacework, its mammoth size just indicated, a superb background for the two spirited advancing figures. So throughout all his work; nothing is disdained, but with happy assurance, the golden touch transforms heaviness into grace, squalor into riches, grimness into beauty.

* * * * *

Daniel Urrabieta Vierge was born in 1851, at Madrid. One is not surprised to learn, from the modest sketch of his life prepared by him for a publisher in 1892, that his drawing was his "only amusement as a child," beginning at the age of 3. As rarely happens with infant phenomena, his talent kept up the pace, and it is more noteworthy that his first honorable mention was received at the age of 14, at the School of Fine Arts, Madrid. At 16, having won his "diplôme d'honneur," the young Urrabieta embarked on his career by illustrating the "*Madrid la nuit*" of Eusebio Blasco, and another work called "*Les Mystères de Rome et du Globe*."

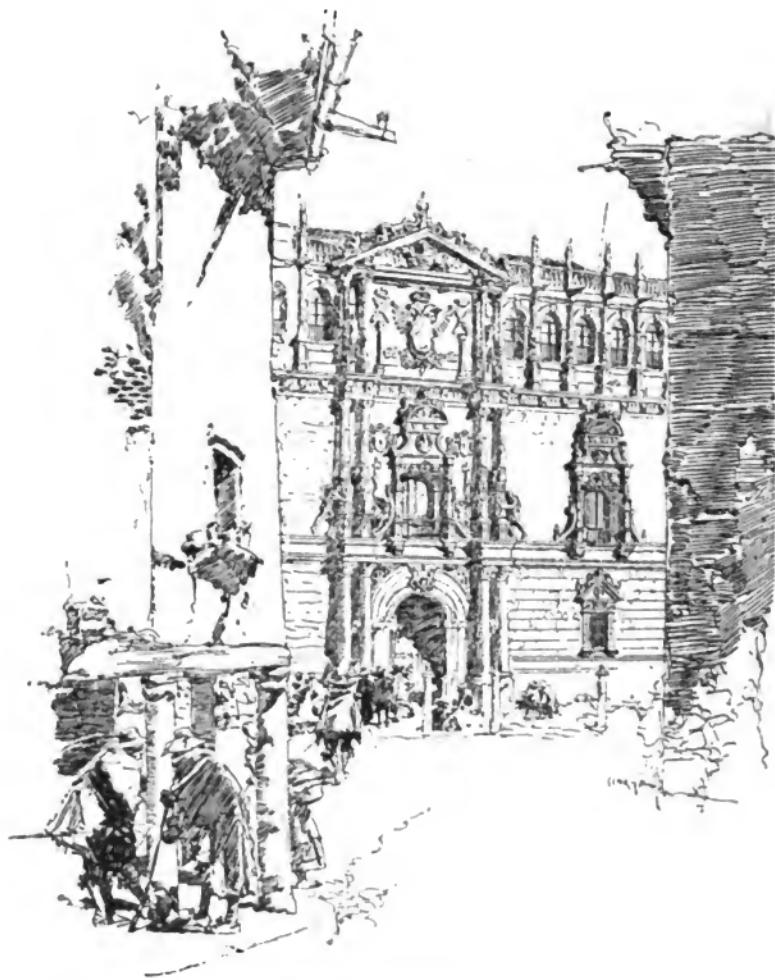
His ambition then was to become a painter. With this in view he arrived at Paris, natural goal for that blended Gallic and Castilian spirit which was to give his slightest work its unmistakable stamp forever after. In Paris, nevertheless, the "Urrabieta" drops out, and from that time on—adopting his mother's name and becoming French among Frenchmen—he is known as Vierge *tout simplement*.

That year (1870) saw the outbreak of the Franco-Prussian War. Young Vierge was compelled to change his program. He was thankfully appropriated by the "*Monde Illustré*" ("*acaparé*," as he himself put it), and was with them as staff artist for years—properly valued, no doubt, as shown by the editorial text of those days.

In spite of his thwarted plans, life must have been very full and very smiling to the young Spaniard, just coming of age, with the great field of his art stretching before him; with a sense of power, and of utter revelry in that power, such as can never have been more frankly revealed in the work of any artist in any age. It is pleasant to picture him as Paris knew him in that early time—a striking apparition, with the splendid head, always picturesque, as seen in his later sketch, tumbled of hair, fiery and deep of eye, strong of feature. There is an entertaining account of a great charity festival, in a "*Monde Illustré*" of 1879, which offers a flashing glimpse of that romantic figure. It was a Spanish fete in the old hippodrome, given by the Paris press for the benefit of the flood sufferers of Murcia. The *tienda* or pavilion of the "*Monde Illustré*" appears to have been a gorgeous affair, designed and decorated in Spanish Renaissance style, "*avec une maestría et une originalité remarquables*," by M. Vierge and somebody named Scott—a fellow artist who can hardly have had much claim to immortality unless through the association. So, "*MM. Vierge et Scott*," with Spanish friends, in native costumes of Galicia, Murcia, Salamanca, etc., assisted gaily in the grand parade, winding up with a "*jota gigantesque*." The illustrations of the parade by MM. Vierge and Scott was the great feature of the next "*Monde Illustré*," coarsely handled in reproduction, but stamped with the undoubted hallmark of its draughtsman. Among the pictorial magazine work of that period, embryonic and rough-finished all, the art of Daniel Vierge stands out like a flame wherever found—"a cresset in a dark night."

But his industry was not confined to the pages of magazines in these days. "At the same epoch" (to translate from his own writing) "I illustrated a quantity of books, among others '*The Toilers of the Sea*,' '*The Terrible Year*,' '*Our Lady of Paris*,' and others written by Victor Hugo; '*The Family Museum*,' '*The Pictorial Magazine*,' '*The Great Knave of Quevedo*,' Tales by Edgar Poe; also '*The History of France and the Revolution*,' by Michelet, and a number of other works." What riches. "*The Great Knave*" (*El Gran Tacafío*) is the book—the unique book—known to us as "*Pablo de Sigovia*."

The first edition of "*Pablo*," issued in 1882, remains the choice one, not to be approached by any later ones, despite the "*lacune*" to which M. Bonhôte, its publisher, simply but feelingly refers.



Courtesy of The Journal of the American Institute of Architects.

A VIERGE ILLUSTRATION FROM "PABLO DE SEGOVIA."

"While it is plain that Vierge's dominant impulse was toward figure-drawing, his knowledge of anatomy being supreme and his use of the architectural note chiefly as background for the human element, yet his treatment of architectural features was so exquisite as to be the ideal and despair of professional draftsmen and illustrators to this day."



Courtesy of The Journal of the American Institute of Architects.

"THE FETES OF SAINT JACQUES DE COMPOSTELLE."

Drawn by Vierge, photographed on wood by Montali, and engraved by Leprie. From *Le Monde Illustré*.

For now comes the tragedy, regarding which Vierge himself is silent, with the silence of the stoic, or the philosopher whose will is stronger than fate. In place of the brilliant young being, so gay of heart and so busy of hand, there is revealed to us a dumb, stricken figure, sitting in the abyss of shadow into which it has been flung, but toiling with an immense, unconquerable patience to retrieve something from its wreck, to regain something of its lost cunning—at any rate, to make the most of such fragmentary power as remains. Again, there is no vocabulary to draw upon, to point the tragic significance of this calamity.

It was many years before Vierge emerged at length fully into the light, having schooled his left hand to hold and use the pen which its wonderful mate had let fall. His old friend the "*Monde Illustré*" again received his work with acclamation. Little by little he settled again into harness. A new edition of "*Pablo*" appeared with 20 new illustrations to supply the "*lacune*." In 1894 the series of illustrations for "*Don Quixote*," 262 of them, which was to be to him his crowning work, the great compensation for his blighted years was begun, and filled the decade left to him with "hard but happy labor," giving to the world, as a writer gracefully says, "the perfect interpretation of one Spanish master by another."

We are grateful for this final chapter in the maimed, too short life. Yet, to most of us, "*Pablo*" will remain the unrivaled as it was the first great success of the young pen. The sunlight that gilds the Segovian streets is the sunlight of youth; the dash and *fougue* of the figures that people them are the essence of youth, the mysterious, precious something that flits away with the flitting of the years. And the original edition—the Bonhure edition enriched by these charming and daring *tours de force* in pen and ink, these delicious vignettes, even by the "*lacune*," that saddens the closing pages like a silence after merry speech—continues the chosen edition, of which we may say heartily after Mr. Pennell that "some day it will be quite as highly prized as the most precious Caxton."

Mr. Pennell has lamented somewhat bitterly that as a mere illustrator Vierge could not have hoped for a gallery devoted to the exposition of his work. However, in one instance, at least, that honor was his, or approximately so. There was a gallery in the Fine Arts Building, at the Paris Exposition of 1889, practically given over to the display of Vierge's drawings, and a splendid and greatly admired display it was, and followed by the conferring of a gold medal upon him. A month later he was made "*Chevalier de la Legion d'Honneur*," a distinction doubtless very grateful to his simple, responsive spirit, and all the more so for the frightful ordeal through which he had passed.

Pleasant glimpses of him in the last years of his life have been given us by friends who visited him in his quiet home at Boulogne-sur-Seine. Always cheerful, they said, often singing, never idle, but surrounded by the implements of his beloved work; with a background of summer garden peopled by fond members of his family, and with the memory of his own cordial words to bestow on parting guests, what better things could his most fervent disciples have wished for him? It seems that he wished so little for himself, so pathetically little—only the power to work at that which was his happiness, and doubtless also the appreciation of "those who know."

The Mesa Verde is the subject of one of the recent installments of the "National Parks of the United States" series running in the Spanish edition of the BULLETIN, the following being the English version of the article:

The one outstanding feature of the national parks which the United States Government has set apart for the use and enjoyment of its people is that each park is quite different from all the others and that each has a marked individuality of its own. While the



GOVERNMENT ROAD TO THE CELEBRATED PREHISTORIC RUINS OF MESA VERDE.

This picture shows the stunted cedar and pinyon trees in this ordinarily arid region justifying the title of Mesa Verde. The highest point of the park is Park Point, 8,574 feet above sea level, while Point Lookout, the most prominent point on the Mesa has an elevation of 8,428 feet above sea level. A new wagon road, open to automobiles as well, ascends the mesa to full view of Point Lookout.



Photograph by J. F. Nusbaum.

THE MESA VERDE CUT BY NUMEROUS DEEP CANYONS IN WHICH ARE FOUND THE CLIFF DWELLERS.

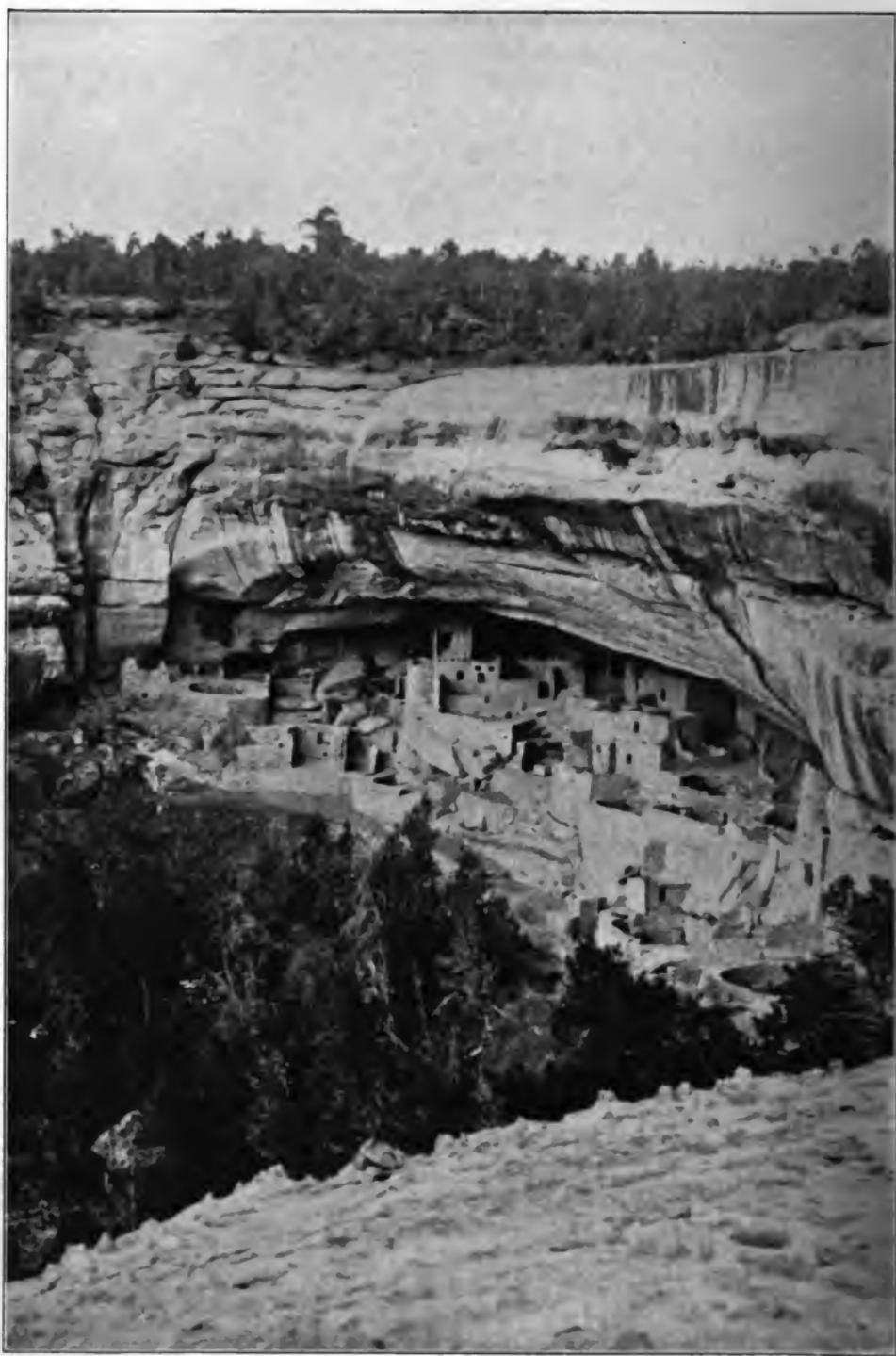
Exploring for new ruins often requires much hard and even perilous climbing up precipitous rocks and overhanging crags. It is within these deep canyons that the cliff dwellings are found. The principal canyons are Ute, Horse, Wickup, Navajo, Spruce, Kulin, and Moccasin; while the principal ruins include Cliff Palace, Spruce Tree House, Tunnel House, and the Sun Temple.

extraordinary scenic beauty and the remarkable natural phenomena which characterize these empires of grandeur are also present at Mesa Verde, this reservation possesses in addition interesting archaeological attractions. Hidden among the barren canyons there have been discovered the well-preserved ruins of a civilization which passed out of existence so many centuries ago that not even tradition recalls its people. In many respects these ruins are the most remarkable of the prehistoric cliff dwellings found in the southwestern part of the United States. Under the cooperative efforts of the Department of the Interior and the Smithsonian Institution exploration work is still going on in this park; in fact, two new relics or types of ruins have been discovered as recently as last year and the year preceding.

Mesa Verde National Park is in the extreme southwestern corner of Colorado. In 1906 it was set aside by an act of Congress from the Ute Reservation in order to preserve the prehistoric antiquities it contains. Of the innumerable mesas or small isolated plateaus rising abruptly for hundreds of feet from the bare and often arid plains in the southwestern section of the United States, this is one of the largest and best known. Its name, Mesa Verde, is the Spanish for Green Table, so called because it is covered with stunted cedar and piñon trees in a region where trees are few. The park is about 77 square miles in area. The highest spot on the Mesa is Point Lookout, over 8,000 feet in altitude. The western edge is a fine bluff 2,000 feet above the Montezuma Valley, whose irrigation lakes and brilliantly green fields are set off nobly against the distant Rico Mountains. To the west are the La Salle and Blue Mountains in Utah, with the Ute Mountains in the immediate foreground. In the park are numerous canyons and a study of the ruins in each canyon offers to the visitor an experience of interest and pleasure.

The credit for having first discovered these ruins belongs to two herdsmen, Richard and Alfred Wetherill. It happened one December day in 1888 while they were riding together through the piñon wood on the mesa in search of stray cattle. They penetrated through the dense scrub and came to the edge of a small but deep canyon, and there, under the overreaching cliffs of the opposite side, apparently hanging above a great precipice, they saw what they thought was a city with towers and walls. They explored it a bit more closely and called it Cliff Palace.

This is the most celebrated of the Mesa Verde ruins; it is the largest and most prominent. Its name is really a misnomer, for it was not a palace at all, but a village consisting of a group of houses with a total of about 200 rooms for family living and 22 round kivas or sacred rooms for worship. Spruce Tree House was the next important exploration. This little district was undoubtedly a town of impor-



CLIFF PALACE, THE LARGEST AND MOST PROMINENT OF THE MESA VERDE RUINS.

Cliff Palace lies under the roof of an enormous cave which arches 50 to 100 feet above it. The entrance faces the west, looking across the canyon to the opposite side, in full view of a great promontory, on top of which stands the ruin of an ancient pueblo. The total length of the palace is nearly 300 feet. There is one passageway that may be designated a street bordered by high walls, over which a passer-by could not look. There were probably about 200 rooms in this group, secular or living quarters, and sacred or ceremonial chambers called kivas.



TERRACES AT THE SOUTHERN END OF CLIFF PALACE, MESA VERDE.

The majority of the ceremonial rooms are accompanied by rectangular chambers, but one of them, situated about 50 feet from the western end, has no rooms near it. These ceremonial rooms fall into two types—(1) subterranean kivas having banqueting around their sides, separated by roof supports called pedestals; (2) kivas destitute of banqueting or pedestals, probably roofless, their roofs being replaced by high surrounding walls. Twenty ceremonial rooms have been referred to the first type, two or three to the second. The shape of the kivas varies from circular to square with rounded corners. Their architecture varies somewhat and their depth is not uniform. One of the kivas is painted yellow, the lower part of another is red, with triangular decorations on the upper border.

tance, harboring at least 350 inhabitants. It originally contained about 130 rooms, built of dressed stone laid in adobe mortar with the outside tiers chinked with chips of rock and pottery. Balcony House, containing some 25 rooms, some of which are in almost perfect condition, and Tunnel House, with 20 rooms and 2 kivas, are among the better known and most accessible of the other ruins. It has been computed that there are over 300 ruined buildings in the park, of which not more than 100 are known to science.

The arrangement of houses in a cliff dwelling of the size of Cliff Palace, for example, is characteristic and intimately associated with the distribution of the social divisions of the inhabitants. The population was composed of a number of units, possibly clans, each of which had its own social organization more or less distinct from the others, a condition that appears in the arrangement of rooms. The rooms occupied by a clan were not necessarily connected, although generally neighboring rooms were distinguished from one another by their uses. Thus, each clan had its men's rooms, which were ceremonially called the "kiva." Here the men of the clan practically lived, engaged in their occupations. Each clan had also one or more rooms which may be styled the living rooms, and other inclosures for granaries or storage of corn. All these different rooms taken together constitute the houses that belonged to one clan.

The conviction that each kiva denotes a distinct social unit, as a clan or a family, is supported by a general similarity in the masonry of the kiva walls and that of adjacent houses ascribed to the same clan. From the number of these rooms it would appear that there were at least 23 social units or clans in Cliff Palace. The kivas were the rooms where the men spent most of the time devoted to ceremonies, councils, and other gatherings. In the social conditions prevalent at Cliff Palace the religious fraternity was limited to the men of the clan.

It is not without interest to speculate as to the problems and customs of these cliff dwellers. Their life must have been a difficult one in this dry country. Game was scarce and hunting arduous. The Mancos River yielded a few fish. The earth contributed berries or nuts. Water was rare and found only in sequestered places near the heads of the canyons. Nevertheless the inhabitants cultivated their farms and raised their corn, which they ground on flat stones called "metates." They baked their bread on flat stone griddles and boiled their meat in well-made vessels, some of which were artistically decorated. They confidently believed that they were dependent upon the gods to make the rain fall and the corn grow. They were a religious people who worshipped the sun as the father of all the earth and as the mother who brought them all their material blessings.



Photograph by Arthur Chapman.

THE ROUND TOWER OF CLIFF PALACE, MESA VERDE PARK.

Round and square towers are among the picturesque structures of the ruins. So solidly were they built that time has done but little damage to them. The stones in the walls are skillfully dressed, fitted to one another and carefully laid, making a perfectly symmetrical form. The tower was evidently ceremonial in function, or it may have served as an observatory.



Photograph by Arthur Chapman.

ENTRANCE TO LOWER FLOORS, SPRUCE TREE HOUSE.

There were counted in Spruce Tree House 114 rooms and 8 ceremonial chambers or kivas, leading to the belief that not far from 2,500 people dwelt therein. The rooms are divided into two groups by a court or street running east and west. Roofs and floors in many of the rooms are well preserved and the walls show splendid masonry. The varied coloring of the plaster indicates that it was done at different times.



Photograph by Pen Lake Studio.

BALCONY HOUSE, ONE OF THE MORE IMPORTANT RUINS AT MESA VERDE.

This is one of the most interesting as well as best preserved of the ruins. It is located in Ruin Canyon about a mile east of Cliff Palace, and contains about 25 rooms, some of which are in perfect condition.

They possessed no written language and could only record their thoughts by a few symbols, which they painted on their earthenware jars or scratched on the rocks. As their sense of beauty was keen their art, though primitive, was true, rarely realistic, and generally symbolic. Their decoration of cotton fabrics and ceramic work might be called beautiful when judged by the tastes of to-day. They fashioned axes, spear points, and rude tools of stone; they wove sandals and made attractive basketry.

The Mesa Verde tribes probably had little culture when they first climbed these precipitous rocks and found shelter in the natural caves under the overhanging floor of the mesa. Then with passing generations they took to constructing rude buildings. Ladders were substituted for zigzag trails; adobe supplanted caves; brick and stone succeeded adobe. Not content with rude and rough buildings they shaped stones into regular forms, ornamented them with design, and laid them one on another. Their masonry resisted the destructive forces of centuries of rain and snow beating upon them.

Evidencing this advance in the cliff dwellers' civilization is the remarkable Sun Temple which Dr. J. Walter Fewkes, of the Smithsonian Institution, unearthed during the summer of 1915, on a great mound on the top of the mesa. This was an important discovery. It suggests the period when the tribes had begun to emerge from the caves and build upon the surface. Dr. Fewkes believes the Temple was built about 1300 A. D. and marked the final stage in Mesa Verde development. The structure occupies a commanding position convenient to many large inhabited cliff dwellings. Its masonry shows growth in the art of construction and its walls are embellished by geometrical figures carved in rock. In reaching the conclusion that this structure was not a house for temporal needs nor a fortress, but a religious structure, Dr. Fewkes presents the following statement in a recent contribution to Art and Archaeology:

Perhaps the feature which has had more weight than any other characteristic in an interpretation of the meaning of this building is a symbol existing on the upper surface of one of the corner stones. This object is inclosed on north, south, and east sides by walls, but is open on the west. The figure on top of the stone inclosed in this way is the leaf of a fossil palm of the Cretaceous period, and as a symbol is supposed to represent the sun, which plays such an important role in the sky-god worship of modern Pueblos. It would appear, then, that the rock upon which this fossil is found was, in early prehistoric times, a shrine, connected with solar or sky-god worship, long before it became the corner stone of a temple, and was frequented by the priests of the neighboring cliff houses in their worship of the rain god, who made the corn germinate and watered its growing plants. Later in time, but long before the recorded history of Colorado began a building was constructed about this shrine, the stone with the fossil palm leaf became the corner stone of a large building, which on account of the resemblance of the symbol to the sun is called Sun Temple.

In this connection it is of interest to note that Dr. Fewkes has just made announcement of another discovery during the summer of 1916. From among the group of mounds known as the Mummy Lake group



SOME OF THE ART WORK OF THE MESA VERDE INDIANS.

Top: Designs and patterns of pottery and basketry work. Middle: Stones from Sun Temple covered with geometrical and emblematical designs. Lower: Drawing showing constructive detail of the Sun Temple, discovered by Dr. Fewkes in the summer of 1915.

he has brought to light for the first time a new type of prehistoric building, a type representative of a considerable region. When this building was excavated, forty domiciliary rooms and four circular ceremonial kivas were found on the ground floor. The former were mainly two stories in height. A row of rooms to the north of one of the kivas shows evidences of a third story, which would probably have brought the original number of rooms to more than fifty. To the south of this kiva is a great court supposed to have been a dance plaza and still inclosed by the remnants of a wall.

The explorers in the Mesa Verde region are quite enthusiastic over the discovery of two such remarkable structures within the short period devoted to the work, and feel that there is much more to be brought to light of genuine historic and archaeologic interest.

A New Food Mammal is the title of a very interesting article in the August number of the *Journal of Heredity* (Washington, D. C.). It deals with that aquatic, herbivorous animal, belonging to the order of *Sirenia*, known as the manatee, or *sea cow*, particularly with reference to the value of its flesh as food for man. It seems that Dr. Alexander Graham Bell is the originator of the idea that in the manatee we may have a food animal which, if properly cared for and domesticated, would prove to be of inestimable value in adding to the meat supply of the world, and it is due to his initiative that a certain preliminary investigation was made in Florida during the past winter with that end in view.

The manatee, according to the writer in the *Journal*, is a docile, easily-domesticated mammal resembling a long-bodied seal in appearance. There are no hind limbs, but a broad, rounded tail, which forms a powerful propeller in swimming. The skin is naked, like that of an elephant, sparsely covered with hairs, and about 1 inch thick. The animal attains a maximum length of 15 to 18 feet, and old bulls weigh as much as half or three-quarters of a ton. The fore limbs are flipper shaped and anything but graceful, but they are of good size and are used for holding food and conveying it to the mouth. The female carries her young beneath the flipper and suckles it in this position, a circumstance which probably gave rise to the mermaid myth, since the upper portion of the body is out of the water at the time. Columbus states that he saw three mermaids on his first voyage to the West Indies, but that they were not as charming as he had been led to believe.

Irrespective of the various marvelous stories of mermaids, sirens, and other more or less mythical creatures to which the manatee or some of its close relatives have given rise from time to time, the real animal is well known to naturalists, and some of its characteristics are set out in the *Journal* article as follows:

They breed in small lagoons and bayous and have one or two calves, the period of gestation being probably about eight months. The family commonly consists of four—



Courtesy of The Journal of Heredity.

A MANATEE, OR SEA COW FROM THE AMAZON.

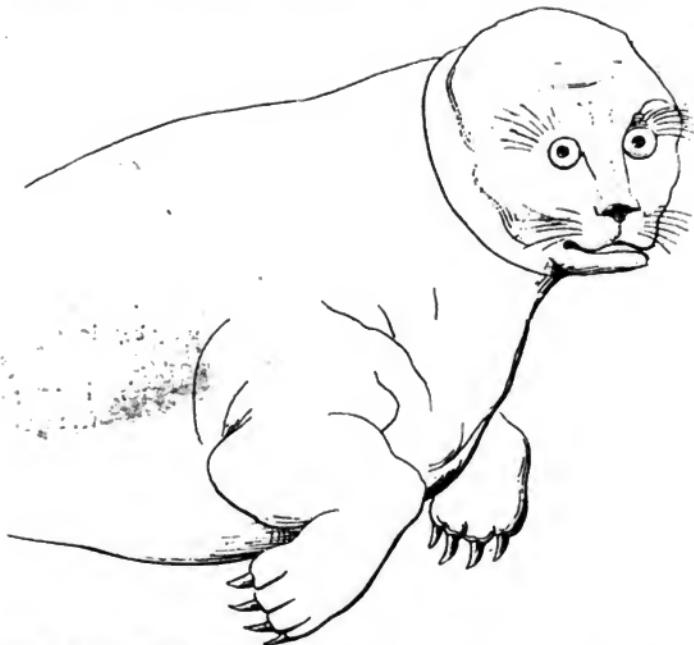
Manatees of several different species are found in the warmer Atlantic waters of America, sometimes coming as far north as Virginia. The buccaneers of the West Indies and Spanish Main prized them as a source of meat, oil, and leather. They are so defenseless that they have been almost exterminated in the waters of the United States, but could probably be increased without difficulty if cared for. The above photograph shows a manatee on its back, a position the animal assumes in order to avoid injury to his flippers, when the water is let out of his tank. (Photograph from the New York Zoological Society.)



Courtesy of The Journal of Heredity.

A SIREN OF THE AMERICAN COAST.

The manatees found in the Atlantic waters of America were taken by early travelers for mermaids and mermen, and some of the descriptions do credit to the imagination of the old voyagers. The above drawing, from an old chronicle, shows the mermaid which appeared to Capt. Schmidt and his crew off the coast of Newfoundland, in the year 1610. To the unromantic modern eye, these "mermaids" are far from seductive in appearance, but may furnish a valuable meat supply.



Courtesy of The Journal of Heredity.

AN OLD MAN OF THE SEA.

Medieval writers gave the name of *phoca* to various marine animals which in form faintly resembled a human being. Manatees, dugongs, seals, walruses, etc., all seem to have been regarded as one species under this name, and to have been identified loosely with mermaids and tritons. Ambrosius gives the above picture of what he calls *senez maris*, an old man of the sea. Natives around the Red Sea, it is said, took these creatures to be the survivors of Pharaoh's Army, drowned in the pursuit of the Children of Israel.

the adult pair, one half-grown individual, and the calf, which is generally born in the autumn.

Due to its peculiar anatomy, it is impossible for the manatee to leave the water, and any stories to that effect, if traced down, will be found to be connected with some other animal. It is entirely inoffensive and is unable even to resist attack. Its survival in the struggle for existence is due to the fact that it never frequents the open seas, but stays in shallow water, where it is safe from predatory denizens of the deep, and being unable to go on land, it has escaped the pursuit of the land carnivores.

The animal is entirely herbivorous and, what is stranger still, does all its eating under water. This is possible because the upper lip is cleft, and the lip pocket, together with the mouth, forms a combination similar to a canal-lock system. In captivity it will eat practically all vegetables and even bread.

Immediately beneath the inch-thick skin is a layer of blubber, averaging $1\frac{1}{2}$ inches in thickness. Beneath the latter is the meat, all of which is equally edible. The meat surrounds a skeleton of very simple construction, comprising a skull, vertebral column, and strong, massive ribs of great density.

The manatee has been observed as far north as Virginia, through the West Indies, in Florida, along the Gulf coast and Mexico, and down the coast as far as the twentieth degree of south latitude. It ascends rivers for great distances. Since Capt. Dampier, the explorer, speaks of the animal in the Guatemalan lakes, it is probable that it could exist in domestication in the Florida lakes equally as well.

In connection with its food value, Dr. Alexander Graham Bell is quoted as writing of the animal as follows:

These huge and inoffensive creatures were fairly swarming in the rivers, bays, and lagoons of Florida when the white man first came to America. In countless herds they grazed upon the seaweeds and water plants, just as the buffalo grazed upon the plains of the West. The flesh of the manatee was much prized, and the creature was also valuable for its hide and oil. It was not found in the open sea far away from land, but inhabited the shallow waters in bays, lagoons, and estuaries of rivers.

It was an animal of from 9 to 12 feet in length (about the size of a cow), and was so easily caught that with the increase of the white population it was threatened with extinction. In fact, it has practically, like the buffalo, become extinct, although a protected herd still exists in the Miami River. With suitable protection this herd would again increase and might be made an important food supply for Florida and the world. There is no reason to doubt that herds could be easily kept in confinement in the lagoons of Florida as private property.

Further details as to the characteristics of the animals are given in the Journal in the form of the following quotation from an old writer:

Their manners and dispositions are stated by voyagers to be inoffensive, mild, and even amiable. Buffon states that they are both intelligent and sociable, not naturally afraid of man, but rather free to approach him and to follow him with confidence and promptitude. But they have especially a kindly feeling for their fellows. They usually associate in troops and crowd together with the young in the center, as if to preserve them from all harm; and when danger besets them each is willing to bear his share in mutual defense or attack. When one has been struck with the harpoon it has been noticed that the others will attempt to tear the dreadful weapon from the wounded flesh.

When the cubs are captured the mother becomes careless of her own preservation; and should the mother be the victim, the young follow her fondly to the shore, where they are speedily secured and slain.



Courtesy of The Journal of Heredity.

A FLORIDA MANATEE.

Manatees are still found in a few of the inlets and bayous of Florida, and probably could be domesticated in many of the lakes. In captivity they eat almost any vegetable food that is offered, and are extremely docile. The specimen here shown is kept in a tank by Capt. C. H. Thompson, of Miami. (Photograph by David Fairchild.)



Courtesy of The Journal of Heredity.

GATHERING THE SUBMARINE MANATEE HAY.

The principal food of the manatee in Florida is a remarkable grass which deserves attention from agriculturists. It is remarkably rich in nitrogen and contains over 2 per cent of iron. Its long, soft stems nearly fill many of the creeks along the coast, and it can be harvested with a strong rake. (Photograph by David Fairchild.)

Buffon also tells us that Gomara reared one in a lake in Santo Domingo and preserved it for the long period of 26 years. It became so tame and familiar as to answer to its name, and took pleasantly whatever nourishment was offered.

As to the practical value of the skin, blubber, and bones of the animal, and in regard to the food value of its flesh, the Journal gives the following account:

Capt. Dampier remarks that the skin of the manatee proved of much value to the buccaneers, who used it for their most strenuous work, including thole straps on their oars. The hides of the old bulls proved too heavy for the primitive methods employed, but shaved strips were used as horsewhips. When simply dried the skin was as hard as wood, and dried and twisted strips of the skin afforded serviceable walking sticks. It is said that native shields which were covered with manatee skin were proof against musket bullets.

The thick layer of blubber which surrounds the entire body furnishes an oil which is also of much value. It is proclaimed as equal therapeutically to cod-liver oil, and is, in addition, odorless and practically tasteless and contains no iodine. It is clear, limpid, and cleanly, and old writers often remark that it never "rusts" or becomes rancid.

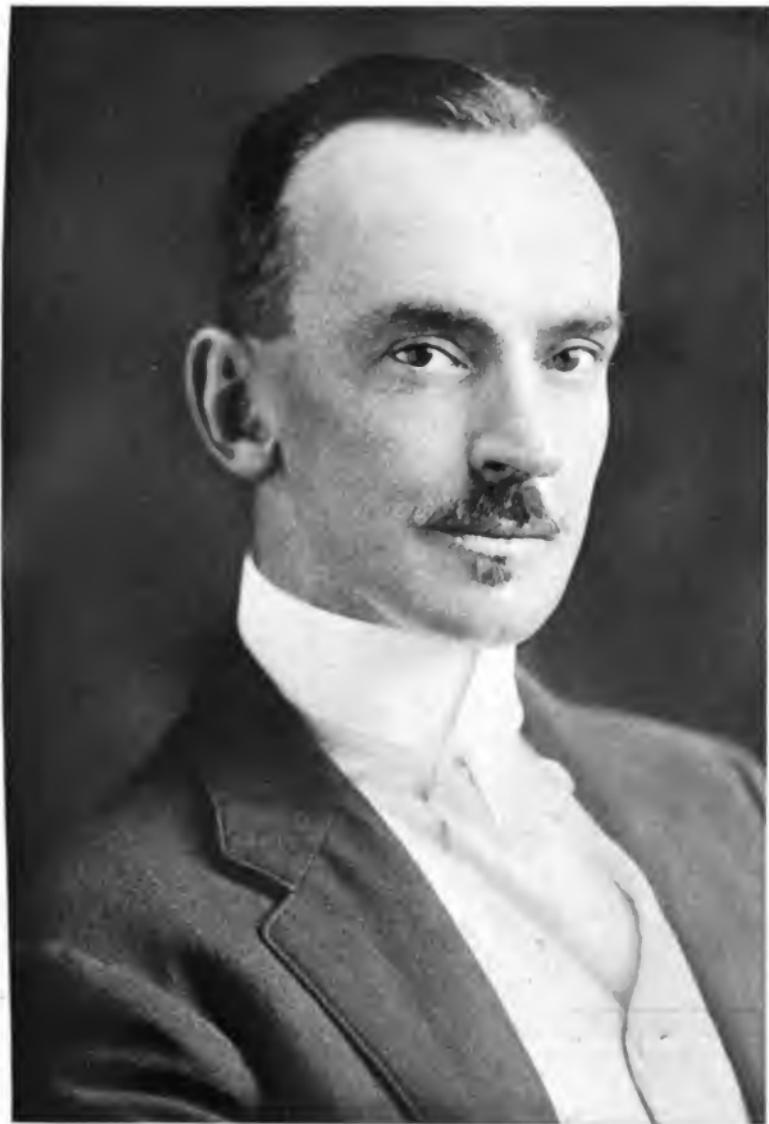
Because of the unusual density, shape, and size of the bones, they would make a good substitute for ivory. They take a high polish without cracking and have no central cavity. Since there are few small bones, the vertebral column and heavy ribs supporting the entire body, practically the entire osseous portion of the body would be available.

With good veal, bacon, ham, beef, chops, and other similar meats now retailing at an average of 50 cents a pound, with 85 per cent of the animal available as salable meat, the economic worth of an animal weighing perhaps half a ton and as well constructed for the cutting of salable meat as is the manatee, is easily seen. Although under modern packing-house conditions absolutely nothing is wasted, it seems probable that the manatee would be more economically handled in the abattoir than are many other animals now being used.

The natural food of the manatee is commonly known as manatee grass, technically *Cymodocea manatorum*. It grows in the rivers of Florida in enormous quantities, with stems often 4 feet long, lying dormant in winter, but in summer almost filling the river. It is easily pulled up with a rake with strong teeth, and a man can gather a boatload of it in an hour or two. * * *

In sum, the manatee can probably be reared easily in the warm, shallow waters of the Southern States, which are now unproductive. A manatee will apparently furnish as much meat as a steer, will probably increase as rapidly, can be as easily cared for, and may involve less expense. Manatee breeding as a commercial enterprise in the lakes, inlets, and rivers where the climate is warm enough looks like a feasible, profitable, and useful undertaking. Animal breeders should take it up, and should be encouraged by some suitable governmental action.

In view of the threatened shortage of food supplies throughout the world, affecting neutral as well as belligerent countries, the matter of a new source for meat is certainly worthy of careful consideration. The manatee has its habitat in the shallow waters of tropical and subtropical America, a zone which extends from Florida to the twentieth parallel of south latitude. The creation, therefore, of the new industry suggested by Dr. Bell—the breeding and domestication of these animals—is a matter which should receive the attention of governmental experts in those countries whose location and physical conditions are suited to making practical tests and experiments along the lines indicated by this article.



Photograph by Harris-Ewing.

HON. HOFFMAN PHILIP.

Envoy Extraordinary and Minister Plenipotentiary of the United States to Colombia.

Mr. Philip, the newly appointed envoy to Colombia, was born in Washington, D. C., July 13, 1872. He received his early schooling at Lawrenceville, N. J., and later studied at Magdalene College, Cambridge, England, and at the Columbian University Law School, now the George Washington University. In 1897 he was engaged in investigation work for the United States Fish Commission. On November 1, 1901, he was appointed deputy consul general at Tangier, and the following year was named vice and deputy consul general at that post; later he was also designated as secretary of the legation there. In 1908 Mr. Philip was made minister resident and consul general to Abyssinia. Toward the close of the following year he was transferred to Brazil as secretary of the embassy in Rio de Janeiro, and on June 24, 1910, he was sent to Constantinople as secretary of the embassy. On February 10, 1912, Mr. Philip was detailed to duty in the Department of State as Chief of the Division of Near Eastern Affairs, and some months later was reappointed secretary of the embassy at Constantinople. In July, 1916, he was designated and assigned as counsellor of the embassy at Constantinople.



Photograph by Harris-Ewing

JORDAN HERBERT STABLER, ESQ.,

Chief of the Division of Latin American Affairs in the United States Department of State.

Mr. Stabler was born in Baltimore, Md., October 16, 1885. After completing an academic course at Johns Hopkins University in 1907 he did some graduate work at that institution and also at the Sorbonne, and the College de France. For a while he served as field secretary to the Maryland State Library Commission, and in 1909 was private secretary to the Minister at Brussels. After formal examination Mr. Stabler was appointed to the diplomatic service in 1909 as secretary of the Legation at Quito, Ecuador. In 1911 he was named second secretary of the Embassy at Berlin, but did not go to that post. Later that year he was sent to Guatemala as secretary of the Legation, and the next year was transferred to the Legation in Stockholm. During the next few years Mr. Stabler served in the Department of State at Washington and was detailed on special assignments to Santo Domingo and in the Embassy at London. In 1916 he was assigned to the State Department for duty in the Division of Latin American Affairs; later being designated as Acting Chief of the Division, and now has been appointed Chief.

BOOK NOTES

British Exploits in South America. A history of British activities in exploration, military adventure, diplomacy, science, and trade in Latin America. By W. H. Koebel. . . . New York, The Century Co., 1917. x (4) 587 p. illus. 8°. Price, \$4.

Christopher Columbus, in poetry, history, and art, by Sara Agnes Ryan. With an introduction by Rev. F. X. McCabe. Chicago, The Mayer & Miller Co., 1917. 259 (1) p. plates. 8°.

Diaz by David Hannay. New York, Henry Holt & Co., 1917. vi, 319 p. 8°. Price, \$2. ("Makers of the nineteenth century," edited by Basil Williams.)

Latin American Stories. Compiled by George H. Trull. New York, Sunday School department, Board of Foreign Missions of the Presbyterian Church, 1916. 95 p. 12°. Price, 25 cents.

Elementary Spanish Reader with practical exercises for conversation. By Aurelio M. Espinosa, associate professor of Spanish, Leland Stanford Junior University. Chicago, Benj. Sanborn & Co., 1916. viii, 208 p. 12°. Price 90 cents (Being part of the "Hispanic series.")

Spanish American Life, a reader for students of modern Spanish. By E. L. C. Morse, principal Phil Sheridan School, Chicago. Chicago, Scott, Foresman & Co., 1917. 369 p. illus. 8°. Price, \$1.25. (The Lake Spanish series; General editor, Christian Gauss, Litt. D., professor of modern languages, Princeton University.)

Spanish Commercial Practice connected with the export and import trade to and from Spain, the Spanish colonies, and the countries where Spanish is the recognized language of commerce. By James Graham . . . and George A. S. Oliver. Parts 1 and 2. New York, Macmillan & Co., 1906 and 1916. 2 v. maps. diagrs. 12°. Price, \$2.20.

Elementary Spanish-American Reader. By Eduardo Bergé-Soler and Joel Hatheway, of the High School of Commerce, Boston. Chicago, Benj. H. Sanborn & Co., 1917. xiv, 460 p. map. illus. 12°. Price, \$1.24. (Being part of the "Hispanic series.")

Mexico Coming into Light, by John Wesley Butler. Cincinnati, Jennings & Graham, 1897. 101 p. 35 cents.

Mexico in Transition from the power of political Romanism to civil and religious liberty. By William Butler. New York, Hunt & Eaton, 1893. xvi, 325 p. illus. 8°. Price, \$1.50.

Spanish and French Rivalry in the Gulf Region of the U. S., 1678-1702. The beginnings of Texas and Pensacola, by William Edward Dunn. . . . Austin, Texas, University of Texas, 1917. 238 p. 8°. (The University Bulletin, No. 1705, Jan. 20, 1917.)

The Argentine Standard Directory and Buyers Guide. . . . Edición, 1917. Buenos Aires, The Standard Directory Co., 1917. 436 p. 4°. Price, paper, 5 pesos.

The American Type of Isthmian Canal. Speech by Hon. John Fairfield Dryden in the Senate of the United States, June 14, 1906. Newark, New Jersey, Prudential Press, 1915. 42 p. front. 8°. (No. 8, Panama Pacific Exposition. Memorial publications of the Prudential Insurance Co. of America.)

Instructions to the American Delegates to the Hague Peace Conference and their official reports. Edited, with an introduction, by James Brown Scott. New York, Oxford University Press, 1916. iii, 138 p. 4°. (Carnegie Endowment for International Peace, Division of International Law.) Price \$1.50.

The Hague Conventions and Declarations of 1899 and 1907, accompanied by tables of signatures, ratifications, and adhesions of the various powers and texts of reservations. Edited by James Brown Scott. Second edition. New York, Oxford University Press, 1915. xxxiii, 303 p. 4°. (Carnegie Endowment for International Peace, Division of International Law.) Price \$2.

— — — Same. [In Spanish.] Nueva York, 1916. xxxv, 301 p. 4°. Price \$2.

The Hague Court Reports, comprising the awards, accompanied by syllabi, the agreements for arbitration, and other documents in each case submitted to the permanent court of arbitration and to commissions of inquiry under the provisions of the conventions of 1899 and 1907 for the pacific settlement of international disputes. Edited, with an introduction, by James Brown Scott. New York, Oxford University Press, 1916. cxi, 664 p. 4°. (Carnegie Endowment for International Peace, Division of International Law.) Price \$3.50.

Recommendations on International Law and Official Commentary Thereon of the Second Pan American Scientific Congress held in Washington, December 27, 1915-January 8, 1916. Edited, with introductory matter, by James Brown Scott. New York, Oxford University Press, 1916. vi (1) 53 p. 4°. (Carnegie Endowment for International Peace, Division of International Law.) Price \$1.

An International Court of Justice. Letter and memorandum of January 12, 1914, to the Netherlands's minister of foreign affairs, in behalf of the establishment of an international court of justice. By James Brown Scott. New York, Oxford University Press, 1916. (3) 108 p. 4°. (Carnegie Endowment for International Peace, Division of International Law.) Price \$1.50.

An Essay on a Congress of Nations for the adjustment of international disputes without resort to arms. By William Ladd. Reprinted from the original edition of 1840 with an introduction by James Brown Scott. New York, Oxford University Press, 1916. L, 162 p. 4°. (Carnegie Endowment for International Peace, Division of International Law.) Price \$2.

Resolutions of the Institute of International Law dealing with the law of nations, with an historical introduction and explanatory notes. Collected and translated under the supervision of, and edited by, James Brown Scott. New York, Oxford University Press, 1916. xlv, 265 p. 4°. (Carnegie Endowment for International Peace, Division of International Law.) Price \$2.

The Status of the International Court of Justice, with an appendix of addresses and official documents by James Brown Scott. New York, Oxford University Press, 1916. iv, (1) 93 p. 4°. (Carnegie Endowment for International Peace, Division of International Law.) Price \$1.50.

The Freedom of the Seas, or the right which belongs to the Dutch to take part in the East Indian trade. A dissertation by Hugh Grotius. Translated with a revision of the Latin text of 1633 by Ralph Van Deman Magoffin. . . . Edited, with an introductory note, by James Brown Scott. New York, Oxford University Press, 1916. xv, 93 p. 4°. (Carnegie Endowment for International Peace, Division of International Law.) Price \$2.

Diplomatic Documents Relating to the Outbreak of the European War, edited, with an introduction, by James Brown Scott. Parts 1 and 2. New York, Oxford University Press, 1916. 2 v. 4°. (Carnegie Endowment for International Peace, Division of International Law.) Price \$7.50.

The Beginnings of Washington, as described in books, maps, and views. By P. Lee Phillips, chief division of maps, Library of Congress. Washington, the author, 1917. 78 p. Front, maps, plates. 4°. Price \$3.



SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED TO AUGUST 15, 1917.¹

Title.	Date.	Author.
ARGENTINA.		
Argentine objection to the proposed Webb Law.....	1917, May 18	W. Henry Robertson, consul general, Buenos Aires.
Argentine national balance sheet for Sept. 30, 1916.....	do.....	Do.
Rural population in Argentina, sales and mortgages in 1916.....	May 19	Do.
Dutch views of Argentine cotton.....	May 22	S. Reed Thompson, vice con- sul, Rosario.
Railway concessions annulled in Argentina. Subway franchise also canceled.	do.....	W. Henry Robertson, consul general, Buenos Aires.
International revenue taxes on imported cigars, cigarettes, and tobacco in Argentina.	do.....	Do.
Customs duties on petroleum products entering Argentina.....	May 24	S. Reed Thompson, vice con- sul, Rosario.
Duty on automobile motors in Argentina.....	May 25	W. Henry Robertson, consul general, Buenos Aires.
Argentine exports for first four months of 1917.....	June 2	Do.
Duty on newsprint paper entering Argentina.....	do.....	Do.
Principal industries and products in consular district.....	June 7	Willbert L. Bonney, consul, Rosario.
Notes from Rosario.....	do.....	Do.
Argentine objection to proposed Webb Law.....	June 14	W. Henry Robertson, consul general, Buenos Aires.
BRAZIL.		
Graphite in Brazil.....	May 16	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Brazilian rattan.....	May 20	Do.
Issue of Brazilian national treasury notes.....	May 23	Do.
Exploitation of Brazilian coal deposits. Railway from Tubarão to Araranguá.	do.....	Do.
Brazilian custom duties. Important changes in collection of duties, and presentation of consular invoices.	May 25	Do.
Annual report on commerce and industries, 1916.....	May 28	Carl F. Deichman, consul, Santos.
Projected railway to Parana. Exploitation of coal deposits.....	May 30	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Report on cattle industry and grazing lands in State of Rio Grande do Sul (lists).	June 1	Samuel T. Lee, consul, Rio Grande do Sul.
Catalogues without price list.....	do.....	J. B. Stewart, vice consul, Pernambuco.
Brazilian Piteira.....	June 4	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Close of the first Brazilian cattle congress at Rio.....	June 6	Do.
Market for electrical instruments and supplies (list of Light & Power Co., etc., in State).	June 8	Samuel T. Lee, consul, Rio Grande do Sul.
Immigration in Brazil.....	June 9	Carl F. Deichman, consul, Santos.
Brazilian embargo on certain metals.....	June 11	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Printing machinery, type, bookbinding machinery, paper, and office supplies.	June 12	Do.
The sulphate of ammonia industry in Brazil.....	June 13	Carl F. Deichman, consul, Santos.
The Cold Storage Co. of Santos: law regarding the incorporation of this company.	June 16	Do.
Transmitting memorandum concerning monazite.....	June 19	A. L. M. Gottschalk, consul general, Rio de Janeiro.
COLOMBIA.		
Annual report on commerce and industries—Cartagena.....	Undated	A. J. Lespinasse, consul, Cartagena.
COSTA RICA.		
Annual report of Port Limon for year 1916.....	May 30	C. Donaldson, consul, Port Limon.
Timber in district.....	June 26	Do.
Market for straw.....	do.....	Do.

¹ This does not represent a complete list of the reports made by the consular officers in Latin America but merely those that are supplied to the Pan American Union as likely to be of service to this organization.

Reports received to August 15, 1917—Continued.

Title.	Date.	Author.
DOMINICAN REPUBLIC.		
Project for manufacture of finished sugar.....	July 5	Clement S. Edwards, consul, Santo Domingo.
Drafts on the Dominican Republic.....	July 6	Arthur McLean, consul, Puerto Plata.
Record month for customhouse at Puerto Plata.....	do.....	Do.
Agencies for the Dominican Republic.....	July 7	Do.
ECUADOR.		
Agriculture and industries of Ecuador.....	May 29	Frederic W. Goding, consul general, Guayaquil.
School census of Guayaquil.....	June 12	Do.
Guayaquil market for May.....	do.....	Do.
Regulation of Ecuadorian organic customs law (importation of merchandise from Peru).	June 13	Do.
Regulation of same under political constitution of Government.....	June 16	Do.
Reducing export duty on ivory nuts.....	do.....	Do.
GUATEMALA.		
Educational opportunities for foreign service.....	April 30	Samuel C. Reat, consul, Guatemala City.
Guatemala salt production and consumption.....	May 7	Do.
Annual trade report for 1916.....	June 1	Do.
Carriage manufacture in Guatemala.....	June 12	Do.
Practicing dentistry in Guatemala.....	June 19	Do.
Increased agricultural area in Guatemala.....	June 25	Do.
Guatemala importations of trunks and valises.....	July 2	Do.
MEXICO.		
Water for domestic uses in Yucatan.....	June 4	O. Gaylord Marsh, consul, Progreso.
Leading industries and commercial houses of Monterey, revised to June 19, 1917.....	do.....	Randolph Robertson, vice consul, Monterey.
Auto busses and street cars in Merida.....	June 5	O. Gaylord Marsh, consul Progreso.
Report that Gen. Alvarado will undertake reorganization of commerce in State of Tabasco.	June 15	Thomas B. Bowman, consul, Frontera.
Principal industries and products of Frontera consular district Project to establish bathing resort.....	June 20	Do.
Tax placed on pulque and other products of maguey plant juice.....	July 2	William W. Canada, consul, Vera Cruz.
Inauguration of a National Congress of Merchants.....	July 12	Chargé d'affaires, Mexico City.
Text and translation of presidential decree modifying tax on receipts of railways, tramways, etc., for carrying passengers and freight.....	July 17	George A. Chamberlain, consul general, Mexico City. Embassy.
PARAGUAY.		
Refrigerating and meat-packing plant for Paraguay.....	May 26	Henry H. Balch, consul, Asuncion.
Merchandise mailed is subject to confiscation by Government ..	June 30	Do.
URUGUAY.		
Opportunities for settlers in Uruguay.....	May 15	William Dawson, jr., consul, Montevideo.
New regulations for numbering and marking shipments.....	May 16	Do.
Tree culture in Uruguay.....	May 18	Do.
Motor trucks at Montevideo.....	May 26	Do.
Opportunity to advertise American goods.....	June 4	Do.
VENEZUELA.		
Harbor rules and regulations, pilot fees, general maritime legis- lation in ports of district.	June 7	Frank Anderson Henry, con- sul, Puerto Cabello.
Manufacture of paper in Venezuela.....	June 12	Do.
Market for straw braids.....	June 18	Homer Brett, consul, La Guanira.

ARGENTINE REPUBLIC

In 1916 the FLOUR MILLS of the Argentine Republic ground 1,429,195 tons of wheat which produced 993,539 tons of flour, 144,490 of which were exported. In 1914 the production of flour was 908,361 tons, 67,325 tons of which were exported, as compared with 937,770 tons in 1915 of which 116,049 were exported. The flour mills in the city of Buenos Aires, and in the provinces of Santa Fe, Cordoba, and Entre Ríos represent 94 per cent of the wheat flour output of the country. Brazil furnishes the principal foreign market for Argentine flour.—The board of directors of the National Viticultural Society has petitioned the Chamber of Deputies of the National Congress to impose a tax of 30 centavos, currency, (\$0.14) per liter on LIQUORS with the exception of wines containing less than a certain percentage of alcohol.—The NATIONAL STOCK FAIR, held annually in Buenos Aires under the auspices of the Argentine Rural Society, will be open to the public from September 9 to 16, next, inclusive.—The Agricultural Department of the Argentine Government has completed the distribution of 70,000 tons of SEED WHEAT, costing 14,000,000 pesos, currency (pesos = \$0.425), to 22,500 colonists. It is estimated that this quantity will sow 1,200,000 hectares (hectare = 2.47104 acres) of land which will produce 800,000 tons of wheat valued at 120,000,000 pesos, currency. This distribution has enabled thousands of colonists, who were unable otherwise to obtain seed wheat, to continue the cultivation of this cereal.—A bill has been introduced into the Argentine Congress providing for the free IMPORTATION OF FRESH MEATS, which, at present, according to a statement of the author of the bill, are subject to a duty of 25 per cent ad valorem. It is claimed that fresh meats two years ago could have been imported from Uruguay into Argentina at a cost of 35 centavos (\$0.15) per kilo (kilo = 2.2046 pounds).—Representatives of miners' organizations in a number of the provinces and territories of the Republic have petitioned the Chamber of Deputies of the National Congress to approve the REVISED MINING CODE, sanctioned by the Senate in 1915, which provides for the payment to the State of an annual quota for each mining claim.—The SINGLE TAX LEAGUE at Buenos Aires celebrated on June 14, 1917, the third anniversary of its founding.—Armour & Co. have taken preliminary steps looking to the establishment of a COLD STORAGE AND MEAT-PACKING plant at the port of Rosario just outside the city limits. Press reports state that this company, which has an

investment in Argentina of 3,000,000 gold pesos (gold peso = \$0.965), earned 672,463 gold pesos in 1916.—A tract of LAND of more than 2,000 acres in the Province of Buenos Aires, near the town of General Rodriguez, was recently sold at an equivalent of about \$80 (U. S. gold) per acre. A large quantity of Government land, situated in the Territory of Santa Cruz, titles to which were forfeited for non-compliance with the land laws, has recently been placed under the direction of the Department of Agriculture of the Argentine Government.—June 11, 1917, was the 337th ANNIVERSARY OF THE FOUNDING OF BUENOS AIRES by Juan de Garay to whom a statue was unveiled in one of the parks of the National capital in 1915. The event was celebrated by decorating the statue referred to with flowers.—The Society of Physicians and Surgeons of the Argentine Republic has presented the Oswaldo Cruz Institute in Rio de Janeiro with a BRONZE PLAQUE in honor of the late Brazilian scientist, Dr. Oswaldo Cruz.—The Treasury Department has exempted from license dues vessels navigating Lake Nahuel Huapi.—The Governor of the Province of Santa Fe has recommended to the provincial legislature that the TAX ON QUEBRACHO LOGS or ties be increased \$0.425 per metric ton, and that the tax on logs and ties of other woods be augmented \$0.2125 per metric ton. It is proposed not to increase the tax on woods used in the tanning industry. The Director General of the Office of National Statistics of Argentina has published a statement of the FOREIGN EXPORT TRADE of the Republic for the first four months of the current year 1917 (January to April, inclusive). The statement shows a total of foreign exports for the four months amounting to 204,963,471 pesos gold (\$198,814,567 United States currency), which is an increase in the exports for the like period of 1916 of 39,771,332 pesos (\$38,578,192). As classified in great groups, the trade for the first four months of the two years (converted into United States currency at the rate of peso = 97 cents United States) was as follows:

	1917	1916
Live stock	\$111,045,865	\$73,962,970
Agricultural	68,635,916	73,376,236
Forestal	5,002,135	7,917,519
Other products	14,130,651	4,979,650
Total	198,814,567	160,236,375

It will be noticed that the increase was entirely in live-stock products. There were actual decreases in the agricultural and forestal groups, but these were more than offset in the large increase in live-stock products. Among the principal articles of export for the first four months of each year especially noticeable are the following:

	1917	1916		1917	1916
Live-stock products:					
Live cattle.....	\$1,226,927	\$722,000	Live-stock products—Con.		
Frozen beef.....	26,487,782	24,674,969	Butter.....	\$1,947,279	\$1,276,490
Chilled beef.....	2,029,190	785,363	Lard and tallow.....	3,674,176	2,721,545
Frozen mutton.....	2,874,493	3,013,024	Agricultural products:		
Goat and kid skins.....	1,085,453	669,209	Oats.....	6,033,268	3,822,035
Sheepskins.....	2,117,006	1,274,121	Linseed.....	2,941,577	16,864,944
Salted ox hides.....	14,250,062	9,325,260	Maize.....	18,429,402	12,504,944
Dry ox hides.....	5,922,031	2,978,926	Wheat.....	38,516,328	35,504,136
Wool.....	39,202,794	24,452,533	Wheat flour.....	1,250,894	2,819,139
Salted meat (pork, beef, and jerked beef).....	1,223,346	50,823	Oilseed cakes.....	322,510	54,385
Preserved meat.....	7,419,532	946,564	Forestal products:		
			Quebracho extract.....	4,175,011	6,908,843
			Quebracho logs.....	827,124	1,008,675

The increase in exports for the first four months of each year shown in the figures above were largely an increase in values, due to advance prices and not always an increase in quantity of exports, as appears from the following table:

	1917	1916		1917	1916
Live-stock products:					
Live cattle ... number.....	19,103	24,811	Agricultural products:		
Horses.....do.....	7,370	8,627	Oats.....tons.....	154,754	191,859
Frozen beef.....tons.....	116,607	118,945	Barley.....do.....	11,359	23,276
Chilled beef.....do.....	8,483	3,855	Linseed.....do.....	30,471	325,989
Frozen mutton.....do.....	15,119	17,149	Maize.....do.....	450,509	509,442
Goat and kid skins.....do.....	791	1,111	Potatoes.....do.....	5,303	6,402
Sheepskins.....do.....	4,106	3,632	Hay.....do.....	1,646	12,342
Salted ox hides.....do.....	24,898	21,264	Wheat.....do.....	642,307	934,860
Dry ox hides.....do.....	7,320	4,813	Spirits of alcohol.....liters.....	872,441	8,025,660
Horse hides.....do.....	1,506	655	Wheat flour.....tons.....	13,773	44,007
Wool.....do.....	60,715	47,718	Argentine wine.....liters.....	1,039,126	2,657,320
Salted meat (pork, beef, and jerked beef).....tons.....	4,501	219	Bran and thirds.....tons.....	10,483	12,130
Preserved meat.....do.....	21,188	9,758	Oil seed cakes.....do.....	8,312	2,803
Butter.....do.....	2,721	3,290	Forestal products:		
Lard and tallow.....do.....	15,894	14,449	Quebracho extract.....do.....	21,781	32,507
Guano.....do.....	4,885	2,237	Quebracho logs.....do.....	56,909	75,027
Bones.....do.....	5,071	2,728			

Tons are metric tons of 2,204.6 pounds; liter=0.264 gallon.



Due to the increasing importance of the new international PORT OF SANTIAGO DE HUATA on Lake Titicaca, the commercial convention concluded between Bolivia and Peru on January 21, 1917, concerning the interchange of trade between Mollendo and Guaqui, was made applicable on June 2 last to the import and export commerce of Santiago de Huata.—A CONGRESS OF STUDENTS was held in the municipal theater in La Paz from July 15 to 17, inclusive, 1917.—In accordance with an executive decree of June 11, 1917, CONGRESS met in regular session in La Paz on August 6, 1917.—The Monte Blanco Mining Co. has presented to the MUSEUM OF MINERALOGY in La Paz a collection of samples of ores, photographs of the mine and of the machinery, and processes employed in working the same.—Newspaper reports state that American capi-

talists will finance the construction of the LA PAZ TO YUNGAS RAILWAY in the sum of \$2,400,000 gold. It is proposed to obtain ties for this railway in Chile since they can be purchased in that country cheaper than in the United States. One of the many products of the Yungas provinces is coca, the estimated production of which is 7,500 tons annually. Firewood is also available in large quantities, the approximate annual production of this fuel being over 90,000 tons. The terminal of the railway is to be, for the present, Coroico, situated on one of the affluents of the Beni River 122 kilometers from La Paz, although ultimately the line is to be extended to Puerto Pando at the confluence of the Kaki and Beni Rivers 327 kilometers from La Paz. At this point the Beni River is 150 meters wide and 6 meters deep. Steam navigation is now made from Puerto Pando to Salinas 272 kilometers distant, and from the latter point to Riberalta boats can ascend the river to its junction with the Madre de Dios River, a distance of 741 kilometers.—The Government of France has made the President of the Bolivian Republic, Dr. Ismael Montes, a Grand Officer of the Legion of Honor in acknowledgment of his merits and services.—According to press reports steps have been taken in La Paz to prepare DISKS OF BOLIVIAN MUSIC for graphophone use, with the object of making known abroad the beautiful folk songs and sweet music of the Bolivian people.—Albert Jarfelt, a Dutch aviator, assisted by his wife, who is an expert air woman, has been engaged by the Government of Bolivia to open an AVIATION SCHOOL in the capital of the Republic.—Recently the SUPERIOR NORMAL INSTITUTE was inaugurated at La Paz. The chief executive, members of the cabinet, and other distinguished persons took part in the ceremonies. Another excellent normal school in Bolivia is the one for girls at Sucre.—An executive decree of June 20 last establishes at La Paz a CORRECTIONAL SCHOOL for minors where useful occupations will be taught to children who are detained by law for misdemeanors and other offenses.—The Bureau of Statistics of the Government of Bolivia recently established a LIBRARY in La Paz. It is proposed to assemble in this library statistical data, works on geography, science, etc.—An EXPOSITION OF PAINTINGS was opened in La Paz on July 14 last, in which artists from the National Capital and the interior of the Republic participated.—The Bolivian Government has awarded a contract for engraving 5,000,000 POSTAGE STAMPS in denominations of 5 and 2 centavos.—According to press reports the Oruro-Cochabamba RAILWAY was officially inaugurated on July 26 last, and the regular train service to the public began on the following day. Railways in Bolivia are required to submit to the Department of Fomento, on or before October 15 of each year, the freight and passenger tariffs which they propose to put in force during the following year.



BRAZIL

"O Criador Paulista," a monthly stock review of São Paulo, publishes figures showing that the LIVE STOCK of Brazil, according to the last census, consisted of 30,705,000 head of cattle, valued, approximately, at \$383,812,500; hogs, 18,399,000, valued at \$91,995,000; sheep, 10,653,000, valued at \$13,063,250; goats, 10,049,000, valued at \$12,561,250; horses, 7,289,000, valued at \$54,667,500, and asses and mules, 3,208,000, valued at \$40,100,000, or a total of 80,303,000 head of live stock, valued at \$596,199,500. The number of these animals per square kilometer (0.826 mile) is given as follows: Cattle, 3.81; hogs, 2.28; sheep, 1.32; goats, 1.24; horses, 0.90, and asses and mules, 0.40.—An American company is reported to have purchased four MANGANESE MINES in the State of Bahia, the largest of which is southwest of the city of Bahia near the Central Railway of Brazil. The other three mines are in the vicinity of Nazareth, a town southwest of the capital of the State of Bahia. Manganese ores are now being exported from these mines, and it is estimated that, with adequate transportation facilities, about 20,000 tons of manganese ore can be shipped monthly from the mines in question. The exports of manganese ore from Brazil in 1914 were 186,630 tons, valued at \$1,380,453, as compared with 288,671 tons, valued at \$2,632,427, in 1915. During the first nine months of the fiscal year 1916, the latest figures available, the exports of manganese ore from Brazil amounted to 401,510 tons, valued at \$7,080,954. About 80 per cent of the manganese ore imported into the United States comes from Brazil. In addition to the Bahia manganese deposits new mines of this ore have recently been opened up in the State of Minas Geraes.—The President of the Republic has authorized the HOLLAND BANK of South America, with headquarters at Amsterdam, to establish branches at São Paulo and Santos.—The American CHEMICAL WORKS of Delaware has been authorized to do business in the Republic, and its by-laws have been approved by the Brazilian Government.—The FOREIGN TRADE of Brazil for the year 1916, as shown by the report of the Bureau of Commercial Statistics, was 847,819,688 milreis gold, of which 358,839,434 milreis were imports and 488,980,254 exports. These figures represent an increase over the preceding year of 91,387,067 milreis in imports and 18,132,852 milreis in exports. Expressed in terms of United States currency, valuing the milreis gold at 54.62 cents, the trade for 1916 was: Imports, \$195,998,099; exports, \$267,081,015; total, \$463,079,114. The share of the United States in the trade for 1916 was: Of imports, \$76,907,901, percentage, 39.24; of exports, \$125,395,019, percentage

46.95.—The Governor of the State of Paraná proposes during the present year to establish in the principal commercial cities of Spain EXHIBITS OF BRAZILIAN PRODUCTS suitable for export, and to make a special propaganda in the sale and use of Brazilian matte, sometimes called "Paraguayan tea."—The vice consul of Cuba in Rio de Janeiro has recommended the introduction and cultivation in that Republic of the species of CASTOR BEAN grown in Brazil, known as "Ricinus Communis." About 2,500 of these plants can be grown to the hectare. They are hardy and good producers of oil.—COAL from the Barra Punta mines in the State of Paraná has recently been offered for sale in the National Capital in the form of briquets. Trials of this fuel by transportation and other companies are reported to have given most satisfactory results. A factory for making briquets has been established in Rio de Janeiro.—From January 1 to April 30, 1916, the EXPORTS OF BEANS from Brazil amounted to 521,972 pounds, valued at \$16,437, as compared with 77,378,468 pounds, valued at \$3,366,540, during the same period of 1917, nearly all of which went to France, Great Britain, and the United States.—Dr. Montero de Silva, a well-known Brazilian physician, is said to have obtained excellent curative results in the treatment of TUBERCULOSIS with a tincture extracted from the trunk of the banana plant.—Preliminary steps have been taken looking to the changing of the Bank of Brazil at Rio de Janeiro into a BANK OF ISSUE.—Brazilian capitalists propose to establish a CEMENT FACTORY at Aroverde station, State of São Paulo, where the necessary raw materials are reported to exist in large quantities.—According to press reports the President of Brazil has appointed the following MINISTERS: Alcibiades Peçanha to Buenos Aires; Pedro Toledo to Madrid, and Sousa Daptas to Rome.



On June 1 last President Juan Luis Sanfuentes, of Chile, read an interesting MESSAGE to Congress reviewing the acts of his administration during the past year. The President states that there has been no alteration of the friendly attitude of the Chilean Government with foreign countries. The Chief Executive mentions a number of conventions recently entered into, among which are the postal convention with Brazil, a treaty with Uruguay concerning the practice of the liberal professions, and an arrangement with that country for an interchange of university professors. During the past year the Departments of San Antonio and Rio Bueno have

been created. Much attention has been given by the administration to the development of public instruction. In 1916 fifteen normal schools were in operation in the country, and the graduates therefrom numbered 400 teachers. During the same period 3,028 primary schools were in operation with an enrollment of 342,020 pupils, and 148 new schools were established. Many school buildings have been erected during the past year in the Province of Santiago, and the development of secondary education has been so great in that Province that the President found it necessary to establish new courses of instruction and to raise some of the schools to the rank of lyceums. The 42 lyceums for males and the 45 for females existing in the country in 1916 had, respectively, 16,500 and 11,725 pupils. In addition, there are 11 commercial schools in the Republic which, in 1916, had 2,548 pupils. The Executive favors the establishment of a university at Concepcion in the southern part of the Republic.—The number of persons who availed themselves of reading privileges in the NATIONAL LIBRARY in Santiago in 1916 was 128,800, as compared with 44,700 in 1911, and the volumes contained in the library during the latter year were 164,000 as compared with 300,000 in 1916.—The GENERAL BUSINESS CONDITIONS in the Republic of Chile are very satisfactory, and the financial situation of the country is all that could be desired, as is shown by the abundance of money in circulation in the country and the constant rise in the value of the Chilean peso. The deficit encountered by the administration at the time President Sanfuentes was inaugurated has been greatly reduced, and steps are being taken which it is thought will entirely eliminate the deficit in the budget of 1917, since funds for this purpose will be available out of the receipts from the tax on tobacco, etc.—In 1916 RAILWAY LINES of an aggregate length of 61 kilometers (37.3 miles) were constructed at a cost of 2,214,900 gold pesos (gold peso = \$0.365), and 1,592,500 paper pesos (paper peso = \$0.25).—The total ASSESSED VALUE OF REAL PROPERTY in the Republic, including both rural and urban estates, is 7,581,056,003 pesos, currency (paper peso = \$0.25).—The budget of 1918 provides funds for the construction of a WHARF AT PUNTA ARENAS.—The Chief Executive has submitted to the consideration of Congress a bill for the construction of a RAILWAY between Santiago and Valparaiso, via Casablanca, which is badly needed for the better and more rapid handling of the constantly increasing freight and passenger traffic between the National Capital and the principal port of the Republic.—The Pan American Union has not yet received the official report of the Central Bureau of Statistics of Chile covering the foreign trade of the country for the year 1916, but in the message of President Juan Luis Sanfuentes the total figures of the TRADE FOR 1916 are given as follows: Imports, 222,520,828

pesos gold; exports, 513,584,744 pesos; total, 736,105,572 pesos. Comparing these figures with the year 1915 and making the reductions into United States currency (peso gold = 36.5 cents), it will be seen that there was an increase in the foreign trade of Chile for 1916 over the preceding year of \$93,000,000, of which more than two-thirds is represented by exports.

	Imports.	Exports.	Total.
1916.....	\$84,230,102	\$187,458,432	\$268,678,534
1915.....	55,922,218	119,329,892	175,452,110
Increase.....	25,237,884	67,928,540	93,226,424



The President of the Republic has issued a decree convoking the FIRST NATIONAL PEDAGOGIC CONGRESS to assemble in Bogota from December 15 to 30, 1917. The Congress will treat of the different branches of public instruction, and proposes to suggest to the Government the adoption of such changes as it may deem expedient in view of the present development of pedagogic science.

—The POSTAL REVENUES of the Government of Colombia from January, 1916, to March, 1917, were \$1,064,840, gold.—The DUGAND BANK has been organized at Barranquilla with a capital of \$500,000. A branch of this institution is to be opened at Santa Marta.—A recent executive decree provides that BONDS OF THE INTERNAL DEBT, issued in accordance with law 43 of 1916, shall be in denominations of \$10, \$50, and \$100, bear 8 per cent annual interest, and be accepted by the Government when tendered in part payment of national taxes.—The municipal council of Bucaramanga, capital of the Department of Santander, commenced in June last the construction of an AVENUE, through the plain of Don Andres, to Lebrija pass.—The WIRELESS TELEGRAPH STATION, which the Government is installing at Port Ambalema on the Magdalena River, will soon be completed and opened to public service.—A recent executive decree authorizes the establishment of a BOARD OF TRADE at Tunja, capital of the Department of Boyacá.—A PUBLIC IMPROVEMENT SOCIETY has been organized at Bucamaranga. Elidoro Medina has been elected president of the same.—The new building of the COLOMBIA LANGUAGE ACADEMY (Academia Colombiana de la Lengua), erected on Republic Avenue in the city of Bogota, was inaugurated on July 20, 1917, the anniversary of national independence.—On July 20, 1917, the NEW STATION of the Sabaná Railway in

Bogota was opened to public traffic. The building is said to be one of the best arranged and finest of its kind in South America.—The BUDGET of the Department of Cundinamarca for 1917-18, estimates the revenues at \$819,124, gold, and the expenses at \$813,670, which leaves an excess of receipts over expenditures of \$5,472.—Under a recent executive decree the FIRE DEPARTMENT in Bogota will be equipped with the most modern apparatus and appliances for extinguishing conflagrations.—The inaugural session of the ACADEMY OF DIPLOMATIC STUDIES of Colombia was held in the National Capital on June 8, 1917. Fernando Cuen, Minister of Mexico in Bogota, addressed the gathering.—The Municipal Board at Medellin has opened a competitive contest for plans of the new MUNICIPAL BUILDING which it is proposed to erect in that city in the near future.—On July 20 last a NATIONAL INDUSTRIAL AND ARTISTIC EXPOSITION was held in Independence Park in Bogota in honor of the five Colombian heroines of the War of Independence.—The BANK OF CALDAS at Manizales has absorbed the Bank of Manizales, making the combined capital of the surviving institution \$800,000, gold.—The press announces that a Colombian planter has invented a machine for separating fibers from plants without injuring the strands. It is proposed to organize a company to utilize this device in securing material for the manufacture of JUTE SACKS. Colombia is full of fiber-producing plants, and if the fibers can be easily and economically separated a great industry can be built up in the Republic.



A NATIONAL EXPOSITION OF ARTS AND CRAFTS will be opened in San Jose on September 15, 1917, and will be held annually thereafter in accordance with the law of March 30 last. The object of the exposition is to stimulate natives and foreigners residing in the Republic to greater efforts in the development of the natural and industrial resources of the country. Not only will exhibits be made of raw and manufactured materials and of agricultural and stock products, but also of painting and sculpture. The 1917 fair will pay special attention to exhibits of furniture, tortoise (carey) shells and flowers.—According to "La Informacion" a daily newspaper of San Jose, the Constituent Assembly of Costa Rica prescribed on July 13, 1917, that the ELECTION OF THE PRESIDENT of the Republic in future shall not be by popular vote but by an electoral college composed of both houses of Congress, the representatives of municipalities, ex-Presidents of the Republic, judges, and cabinet

officers.—An ASYLUM FOR MENDICANTS was recently opened in the National Capital. This institution proposes to properly care for the mendicants of San Jose.—The Congress of Costa Rica has authorized banks of issue doing business in the Republic to put in circulation BANK NOTES of the denominations of 50 centimes, and one and two colones, retiring from use equivalent amounts of greater denominations.—The Secretary of Fomento (Promotion) of the Government of Costa Rica has recommended that Congress modify the law which allows the payment of a bounty of 100 colones (colon = \$0.4653) to farmers in Costa Rica who sow one hectare (hectare = 2.47 acres) of land to WHEAT. Inasmuch as the cost of cultivating a hectare of wheat land is approximately 50 colones and as no bounty is allowed on additional hectares sown to wheat, farmers are inclined to confine their operations to the cultivation of but one hectare. The secretary recommends that the law be changed so that the minimum cultivation shall be five hectares and the bounty 30 colones.—A law has been enacted by Congress authorizing the executive power to issue SIGHT BONDS to the value of 2,500,000 colones (colon = \$0.4653). These bonds are to draw interest at the rate of 1 per cent per month, a certain percentage to be payable quarterly out of the sealed paper and stamp tax fund.—Information from the RICE-producing districts of Costa Rica indicate that the crop of this cereal during the present year will be sufficient to meet local demands, and that the prospects for a large yield throughout the entire country are most promising.—The Costa Rican press states that in order to avoid a scarcity of FRACTIONAL COIN the mint of Costa Rica has arranged to issue silver coins of the denominations of 5, 10 and 25 centimes.—During the first half of the present year about 40,000 sacks of COFFEE were shipped to the United States and Europe from the Pacific Coast ports of the Republic.—The party of twenty-two geologists and engineers employed by an American petroleum company to investigate the TALAMANCA OIL BELT of Costa Rica have terminated their exploration work in that zone and are engaged in prospecting for petroleum in other parts of the Republic. A shipment of high-power drills was recently made from New York to the Talamanca District, and as soon as they arrive work will be commenced in drilling for oil.—The SUGAR-CANE growers of Costa Rica have petitioned Congress to repeal the law imposing a tax of \$1 per 100 pounds on exports of sugar.—A NEW CONSTITUTION of Costa Rica was promulgated on June 13, 1917.—The Department of Fomento has authorized Samuel Sing to sow 800 hectares of Government land to CEREALS, principally rice. The concessionaire proposes to expend 250,000 colones in the enterprise and to bring 250 laborers accustomed to the cultivation of rice from Honolulu and Hongkong. After the expiration of seven years, if the concessionaire has complied with the terms of his contract, he may purchase the land at its market value.



CUBA

President Menocal has appointed Gen. José Martí SECRETARY OF WAR AND MARINE. Gen. Martí is the son of the celebrated Cuban patriot of the same name and has the confidence and respect not only of the army but of the entire Cuban nation.—The Chief Executive has signed a decree appropriating \$51,000 for the payment of office material, rent, and minor employees of the LEGATIONS of the Republic. This amount is distributed as follows: \$3,600 to each of the legations established in Argentina, Brazil, Chile, France, Great Britain, and Spain; \$6,000 for the legation established in the United States; \$3,000 each for the legations in Holland, Mexico, Norway, and Italy; \$2,400 for the legations in Belgium, Uruguay, and Venezuela; and \$2,100 each for those in Colombia and Peru.—José R. Villalón, Secretary of Public Works of the Government of Cuba, has called for competitive plans from native and foreign artists for the erection of a MONUMENT in honor of Gen. Máximo Gómez y Baez, the work to consist of an equestrian bronze statue on a marble and granite pedestal, to be erected in Colon Park, formerly known as "Campo de Marte." The artists are required to submit one or more plans of the monument in accordance with specifications. The cost of the work is not to exceed \$175,000. Plans are to be submitted not later than March 31, 1918. Three prizes are to be awarded—one of \$10,000, one of \$5,000, and one of \$2,000. The commission, of which the Secretary of Public Works at Habana is the chairman, will furnish a biography, a photograph, plan of the site where the monument is to be erected, specifications, and full data to interested parties. The artist obtaining the award must agree to contract with the Government of Cuba to deliver the monument in Habana before February 1, 1919. Artists who desire to take part in the contest will, on application to José R. Villalón, Secretary of Public Works and chairman of the monument committee, Habana, Cuba, be furnished with a pamphlet containing full information concerning the matter.—President Menocal recently sent a special message to Congress calling attention to the necessity of a prompt consideration of the IMMIGRATION bill and suggestion that the immigration committee of both houses assemble to study and definitely report upon the immigration problem.—Steps have been taken to organize the new Bureau of DACTYLOSCOPIC IDENTIFICATION, provided for by the immigration law.—Manuel de la Vega Calderon has been appointed MINISTER of Cuba near the Government of the Argentine Republic. Sr. Calderon was formerly secretary of the Cuban legation in Washington.—The House

of Representatives of the Cuban Congress has approved a bill which prescribes that the MINIMUM WAGES of laborers employed by the Government shall be \$1.50 per day and the minimum salary of any employee of the Government who does not receive board, room, or other perquisites shall be \$45 per month.—A law has been promulgated authorizing the President of the Republic to expend \$900,000 in the establishment and support of NEW SCHOOLS, the expenditure to be made in the different provinces according to the proportion of children of school age in the primary departments who are deprived of the opportunity of receiving instruction.—President Menocal has been authorized to expend \$50,000 in the erection of a MONUMENT at the National University in honor of the late José Antonio González Lanuza. The National University at Habana is in charge of the work.—Congress has appropriated \$6,000 for the preliminary use of the Fourth Cuban International MEDICAL CONGRESS which meets in Habana in December, 1917.—Work on the new home of the CUBAN LEGATION in Washington, D. C., is progressing rapidly. The total cost of the building and grounds will be not less than \$140,000, and the sum of \$30,000 has been appropriated by the Cuban Congress to cover the cost of furnishings and equipment.



DOMINICAN REPUBLIC

A recent executive order of the Government of the Dominican Republic establishes a special tribunal under the name of THE DOMINICAN CLAIMS COMMISSION OF 1917 for the purpose of investigating outstanding claims against the Republic originating after the American-Dominican Convention of February 8, 1907, and before the establishment of the present Government under the proclamation of November 29, 1916. The commission will meet in the city of Santo Domingo at as early a date as practicable after July 15, 1917. An appropriation not exceeding \$50,000 is made available for the expenses of the commission.—The Government has issued an order requiring PASSENGERS ARRIVING AT DOMINICAN PORTS to register at the port of debarkation in accordance with the requirements of the law.—The Government has appropriated from funds deposited with the Guaranty Trust Co. of New York, \$55,000, or so much thereof as may be necessary, to cover the general expenses of the OFFICE AND FIELD ORGANIZATION of the Department of Public Works for the fiscal year ending June 30, 1918. Any unexpended balance of this amount reverts to the fund from which it was taken.—The Treasury Department of the Dominican Government

has issued an order authorizing the Director General of Alcohols to require a BOND, for such amount as he may deem expedient, of persons engaged in the Republic in distilling and refining alcohol, or in the manufacture of wines, liquors, or alcoholic products. Owners of stills who refuse to give bond are liable to have their machinery dismantled in such a way as to prevent them from manufacturing liquors.—In 1910 the cultivation of COTTON was begun at Puerto Plata, Dominican Republic, on a commercial scale. During that year 22 bales were produced, a cotton gin was established, and planters were encouraged to grow this crop on a larger scale. According to figures published by the Listin Diario, a daily newspaper of the city of Santo Domingo, the production of cotton in 1911 was 496 bales; in 1912, 1,349 bales; in 1913, 887, in 1914, 504; in 1915, 786; and in 1916, 270 bales. Owing to the high price of cotton at the present time it is believed that profitable markets can be found for all the Dominican cotton that can be produced in the Republic during the next few years, and that the cultivation of this fiber will insure good financial returns.—In 1916 the following vessels entered the PORT OF PUERTO PLATA: Thirty American steamers, representing 69,833 tons; 9 American schooners, 4,069 tons; 21 Norwegian steamers, 15,616 tons, and 16 French steamers, 28,172 tons.—The municipal council of the city of Santo Domingo, capital of the Republic, has under consideration the construction of an AQUEDUCT and a new electric light and power plant. The city authorities propose to proceed with this work as soon as the finances of the municipality will permit.—The Government of the Dominican Republic has been petitioned to build a WAGON ROAD from Seybo to Romana for the purpose of giving an outlet through the port of La Romana to cacao and other products grown in that section of the Republic.—The Government has issued an order requiring all persons who desire to travel in or through the United States, or who travel on vessels touching at American ports, to provide themselves with PASSPORTS.—The ROAD LAW of the Dominican Republic requires all male inhabitants between the ages of 18 and 60 years to work four days in each year in the construction and repair of the public roads of the country, or to make an annual payment to the road fund in lieu thereof.



El Comercio, a daily newspaper of Quito, publishes an interview with Federico Páez, who has just returned from the GALAPAGOS ARCHIPELAGO, in which he states that this group, consisting of

seven small and six principal islands, lying in the Pacific Ocean on the Equator about 600 miles from the Ecuadorean coast, are, with the exception of Cháves Island, privately owned, and for this reason and because of the scarcity of potable water and the thinness of the soil covering the lava deposits, offer little or no inducements for colonization either to native or foreign immigrants. Albemarle, the largest of these islands, is 60 miles long by 15 miles wide, has a volcanic peak rising to the height of about 4,000 feet, and has not, according to Mr. Páez, been visited by a commercial vessel during the last five or six years. It has been estimated that the entire group, if devoted to agriculture, would support 5,000 or 6,000 people, and, if to fishing and agriculture combined, about 20,000. The climate, he affirms, is most delightful, unequaled, perhaps, in any part of the world, and is especially adapted to the establishment of sanatoriums for the treatment and cure of pulmonary affections. The total population of the archipelago is about 630 souls, 450 of which are on Chatham Island, 170 on Albemarle, and 10 on Floreana Islands. Chatham Island produces annually about 2,000 tons of sugar and 200 tons of coffee. Albermarle Island has important sulphur mines, but they are not at present exploited. These islands were formerly used as a penal settlement by the Government of Ecuador. The natives are tractable, but are said to be without religious belief. Albermarle Island has 60 children but no church or school. The Galapagos Islands are famed for the enormous turtles which were formerly found in large numbers along the shores and in the neighboring waters. The Humboldt current encircles these islands, making the climate healthful and pleasant.—President Alfredo Baquerizo Moreno has appointed Sr. Don Miguel G. Hurtado

SECRETARY OF THE DÉPARTEMENT OF FINANCE and Public Credit of the Government of Ecuador. The new Secretary, who was formerly treasurer of the Province of Guayas, is an authority on economic and financial subjects.—A recent executive decree establishes in the National Capital a MUSEUM OF ARCHEOLOGY and a Gallery of Painting and Fine Arts under the management of the General Bureau of Fine Arts created under a decree of January 16, 1913.

Art objects, either ancient or modern, and paintings and sculpture belonging to the State and which are in the School of Fine Arts or any other Government institution, shall be collected, inventoried, and placed in said museum and galleries.—The Consul of Ecuador in New York has been authorized to purchase a locomotive and two flat cars for the use of the ESMERALDAS RAILWAY.—

A COAL MINE has been denounced at Lloa, Province of Pichincha, canto of Quito.—El Pueblo, a weekly NEWSPAPER which will give special attention to political matters, has been founded in the National Capital.—A new REALTY COMPANY entitled "La

Compañía de Préstamos y Construcciones" (The Loan & Construction Co.) has been organized in Quito with a capital of 500,000 sures (sucré = \$0.4867). The company will deal principally in city and suburban property.—The South American Development Co. has opened a HOSPITAL at Portovelo under the name of "Curipamba."



The NATIONAL EXPOSITION, which is planned to be held in the city of Guatemala during the Feasts of Minerva, a celebration held annually throughout the Republic, will be open to visitors at the hippodrome in the national capital from October 28 to 31, inclusive, 1917. According to the rules and regulations of the exposition referred to, the exhibits are to be divided into five classes, to wit: A, oleaginous plants and national products derived therefrom; B, fibrous plants, their products, and domestic articles manufactured therefrom; C, plants containing tannin and their products and application; D, dyewoods and plants and their products and application; and E, a bibliographic section concerning the plants and products referred to in the foregoing. The first four groups are divided into two sections each—namely, (1) raw materials and (2) industrial products manufactured in the country. The successful exhibitors are to receive as prizes, in accordance with the respective awards, gold, silver, and nickel medals, and honorable mention.—President Estrada Cabrera has authorized the municipality of Totonicapan to contract with the Western Bank (Banco de Occidente) for a LOAN of \$3,000, American gold, to be used in purchasing a thrasher. The municipality is to refund the amount in annual installments of \$1,000 each, plus interest at the rate of 8 per cent per annum.—According to information furnished by the governor of the Department of Petén, of which Flores is the capital, the amount invested in the CHICLE INDUSTRY is, in round numbers, the equivalent of \$250,000. The Government of Guatemala owns nearly all the land in the northern part of the Republic bordering on Mexico and British Honduras which produces chicle, and allows no private persons to gather this substance without first securing a permit. Chicle land varies in value from \$1,000 to \$2,000 per caballería (33½ acres). The chicle trees, which produce a luscious brown fruit, grow wild, and no attempt has been made to cultivate them. The tree grows at altitudes of from 500 to 2,000 feet, and a large tree sometimes yields as much as 100 pounds of the crude gum per annum. Native laborers are employed in gathering chicle, the rate of wages paid being \$10, gold, per hundred pounds.—The city of Guatemala has

four factories engaged in the manufacture of CARRIAGES AND WAGONS. Much of the material entering into the finished vehicle, such, for instance, as tires, rims, springs, spokes, poles, and shafts, are imported from the United States. The bodies of the vehicles, however, are made of native woods, such as mahogany and the hardwood known as "guachipilin."—Of the 32 dentists reported by the American consul to be practicing in Guatemala, at least 24 received their dental education in the United States. The city of Guatemala has 22 dentists, and the larger towns, such as Quezaltenango and Escuintla, are well supplied with members of this profession. Foreign dentists, or native dentists educated abroad, must obtain a license to practice. The National School of Medicine in the city of Guatemala has a department of dentistry, but a very small number of students attend and graduate therefrom. Two American dental surgeons are now practicing in the city of Guatemala.



HAITI

According to data recently published in *Le Nouvelliste*, a daily newspaper of Port au Prince, the MUNICIPAL RECEIPTS of the city of Gonaives during the six months from October, 1916, to March, 1917, inclusive, aggregated 24,513 gourdes (gold gourde = \$0.25) and \$112 gold. The expenditures during the period referred to were 19,892 gourdes and \$10 gold, which left a substantial excess of receipts over expenditures during the period in question.—The annual report of the NATIONAL BANK OF THE REPUBLIC, containing important financial data and Haitian statistics, has just been published in Port au Prince. As the statistics mentioned in the report refer to last year, this publication is of great importance, inasmuch as it is a statement showing the financial situation of the country and is an index to the general business conditions of the Republic in 1916.—The gendarmerie of Haiti has commenced the construction of RURAL SCHOOLHOUSES for boys and girls in different parts of the country. The first buildings were erected at Croix des Missions, Gressier, and Petion-Ville, the Government having provided \$900 for the erection of each structure.—Under an executive decree of June 26, 1917, Auguste Scott was appointed SECRETARY OF PUBLIC INSTRUCTION, vice Pericles Tessier, resigned.—The gross receipts of the Sabana du Cul du Sac RAILWAY during the second half of 1916 amounted to \$756 gold and 172,778 gourdes, made up as follows: Urban tramway lines, 19,766 gourdes; Bi-zeton-Carrefour line, 41,646 gourdes and \$10 gold; Sabana du Cul du Sac, 61,451 gourdes and \$400; Carrefour-Léogane line, 49,125 gourdes

and \$190 gold, and sundry receipts, 790 gourdes and \$156 gold.—On July 24 last an EXHIBIT OF THE WORK OF SCHOOL CHILDREN, and especially of that of the lower grade schools, was opened in Port au Prince. The exhibit was open to the public for several days, and showed in a graphic manner the development of the work of the pupils of the primary schools of the national capital.—The Secretary of the Interior has addressed a circular to the municipal authorities of the Republic earnestly recommending that on all occasions due respect be paid to the FLAG in the municipalities, indicating the way of saluting the national emblem, and calling attention to the reverence and respect which the playing of the national anthem should inspire in the hearts of all patriotic citizens.—The Panama STEAMSHIP LINE has established a fortnightly service between the ports of New York and San Marcos, Haiti. The first steamer engaged in this traffic was the *Alliancia*, which arrived in Haitian waters during the latter part of July with a cargo of passengers, freight, and mail.—Under an executive decree of July 3 last Edmond Dupuy was appointed SECRETARY OF FOREIGN RELATIONS and Justice, and Furey Chatelain, Secretary of Agriculture and Public Works.—According to data published in the daily press the EXPORTS OF COFFEE from Haiti in 1916 amounted to 784,395 quintals, as compared with 368,800 quintals in 1915, or an increase during the former year of 415,595 quintals. Shipments of coffee to Europe during the period referred to have been hampered by a scarcity of vessels plying between Haitian and European ports. Recently, however, a considerable shipment of this commodity was made to Italy via New York.



HONDURAS

The machinery and accessories necessary for the installation of the SOAP FACTORY of Montasano & Alemany at the port of La Ceiba has been received. The establishment is to be equipped for the manufacture of soap out of coconut, castor bean, and other vegetable oils, and the machinery will be installed in a two-story building 125 feet long by 100 feet wide.—Vaccaro Bros. and other residents of La Ceiba have contributed \$1,907 to the American RED CROSS FUND.—Acting on authority vested in him by a law of April 4, 1900, the President of the Republic has issued rules and regulations governing the exploration, excavation, and study of the ANCIENT RUINS existing in different parts of the country. Individuals, corporations, or representatives of scientific societies or organizations desiring to visit, explore, excavate, and study the ruins referred to,

the most important of which are those at Copan, must previously obtain permission to do so from the Department of Fomento (Promotion). If only a visit to the ruins is wanted, the Governor or municipal mayor in whose jurisdiction the ruins are situated may issue a permit.—Early in July last a THEATRICAL PERFORMANCE was given in Manuel Bonilla Theater in Tegucigalpa, the proceeds of which were added to the fund for the benefit of the Salvador earthquake sufferers. Other functions for the same purpose are planned to be held in the principal cities of the Republic.—A movement has been started in Honduras, the object of which is to encourage the cultivation of HENEQUEN on the arid or semiarid lands of the country. To this end an organization was recently formed at Tegucigalpa to set out in the neighborhood of the National Capital a large number of sisal fiber producing plants. In support of this plan the municipality of Pespire has passed an ordinance requiring day laborers to cultivate 200 henequen plants, tenant farmers 500, and farmers who own their land 1,000. The authorities of the municipality referred to propose to have more than 100,000 plants set out in that vicinity, 10,000 of which are to be furnished by the National Government. The cultivation of henequen is also to be undertaken in the neighborhood of Nacaomi, and predictions are made that within a few years there will be available in the Republic an abundance of henequen fiber for domestic use and for export.—According to data contained in a report of the Secretary of Fomento, Public Works and Agriculture, covering the fiscal year 1915-16, there are in Honduras 294,659 hectares (hectare = 2.47 acres) of LAND THAT CAN BE EASILY IRRIGATED, situated in the following Departments: Colon, 109,850 hectares; Olancho, 67,430; Atlantida, 28,700; Cortes, 19,450; Yoro, 17,858; Santa Barbara, 17,187; and in the rest of the Republic, 34,184.—The Government of Honduras has taken steps to induce the farmers of the nation to plant more CEREALS, vegetables, and other staple food crops with the object of producing a sufficient quantity to meet the home demands and have a surplus for export. The efforts of the Government are being ably seconded by chambers of commerce and other influential organizations of the country.



An examination of the natural resources of the State of Chiapas shows unmistakable evidence of the presence of PETROLEUM deposits in the vicinity of the famous ruins of Palenque. Researches in Lower California and in the State of Sonora also disclose the

existence of extensive oil fields.—The Mexican Government has granted authority to the Transcontinental Petroleum Co. to construct, maintain, and operate a wharf for five years at some convenient point on the Panuco River in the State of Veracruz. Permission has also been given to the Huasteca Petroleum Co., an American concern, to build and operate a WHARF at Pueblo Viejo on the Panuco River, State of Vera Cruz, for a period of eight years.—The NAVAL ACADEMY at Vera Cruz, which has been closed since April, 1914, recently reopened for instruction. The Military College in the same city will also soon reopen its classes.—According to statistics published by El Demócrata, the exports of silver and gold BULLION from Mexico to the United States during the years 1912 to 1917 were valued, respectively, at \$119,481,227 and \$73,213,884.—The construction of extensive SEA BATHS is to be undertaken in the harbor of Vera Cruz. This enterprise is the first of its kind to be exploited in the Republic.—A large number of laborers recently sailed from Vera Cruz to Yucatan, where they are to be employed in the HENE-QUEN fields.—The Director General of Agriculture of the Mexican Government is experimenting in Southern Mexico with "lechuguilla" and other FIBER-PRODUCING PLANTS indigenous to Northern Mexico, with the object of introducing their cultivation into that section of the Republic.—The MINES of the Mexican Metallurgical Co., at San Pedro, State of San Luis Potosí, are reported to be running to their full capacity, and are giving employment to about 5,000 workmen.—The First COMMERCIAL CONGRESS, which convened in the City of Mexico on July 12, 1917, was attended by more than 80 delegates, representing the leading commercial enterprises of the country. In addition to commercial matters the Congress discussed questions pertaining to education, public health, etc.—In June last, according to press reports, about 5,000 AUTOMOBILES were imported into the Republic, 1,000 of which, intended for hire and jitney service in the City of Mexico, entered the country through the port of Vera Cruz. Until June 30 last the Government permitted the importation of automobiles free of duty.—The Mexican Government has suspended the collection of import duties on FARM IMPLEMENTS, including wagons, until January 1, 1918. Agricultural experiment stations have also been established in different parts of the country, with a view of testing the growth of food plants and methods of cultivation.—The Department of Industry and Commerce of the Mexican Government has taken preliminary steps looking to the calling of a National CONGRESS OF AGRICULTURISTS to meet in the City of Mexico in the near future.—President Carranza has asked Congress for authority to negotiate LOANS amounting to 300,000,000 gold pesos (about \$150,000,000 American gold), 150,000,000 pesos of which is to meet

interest payments, 100,000,000 as a metallic reserve to guarantee the circulation of the proposed Government Bank, and 50,000,000 pesos for use in rehabilitating the National Railways.—A publication entitled the "AGRICULTURAL REVIEW" has been founded in the National Capital.—A commission from Japan recently arrived in the City of Mexico, with the object of securing an adequate EXHIBIT OF MEXICAN PRODUCTS for display in Tokyo.—The Department of Commerce and Industry of the Mexican Government has ruled that, in future, no one will be given permission to sink PETROLEUM shafts upon tracts having an area of less than 10 acres, the object being to protect persons already engaged in the petroleum industry. Petroleum deposits are reported to have been discovered on the island of Guadalupe in the Pacific Ocean.



NICARAGUA

The Congress of Nicaragua has enacted a law requiring, on and after July 1, 1917, the collection of the following IMPORT DUTIES ON WINES AND LIQUORS: Cognac, rum, cherry brandy, cane alcohol, blackberry brandy, gin, and whisky in bottles, \$1.30 per liter; whisky in kegs or barrels, \$1 per liter; cordials, cocktails, bitters, and mixed liquors, not specially mentioned, \$1.35 per liter; champagne, \$1.50 per liter; other sparkling wines, \$1 per liter; ordinary dry wines, white or red, 20 cents per liter; dry and other wines not exceeding 14 per cent alcohol, \$0.40 per liter; wines, other than sparkling, not specially mentioned, and vermouth, \$0.30 per liter.—The Government AGRICULTURAL SCHOOL at Chinandega, according to La Noticia, a newspaper of Managua, is equipped with up-to-date machinery and implements necessary for the proper cultivation of Indian corn, cereals, and other crops, and makes a specialty of teaching its pupils the practical use of same and of impressing upon them the advantages to be obtained by their employment in agricultural operations. The school is in a prosperous condition, has an excellent corps of teachers, intelligent and earnest students, and is daily in receipt of applicants for entrance into its different departments.—The CENTRAL AMERICAN COURT OF JUSTICE has selected as its chairman Dr. Daniel Gutiérrez Navas, delegate from Nicaragua.—A telegram from Managua to The American at Bluefields states that the banking interests of the country are claiming the right of preference in the granting of OIL CONCESSIONS in the Republic. The Sinclair oil interests have petitioned the Nicaraguan Government for permission to prospect and exploit the petroleum deposits of the nation.—The Eden Mine

recently shipped to New Orleans the largest consignment of GOLD ever exported from Bluefields, consisting of 6,118 ounces, valued at \$122,360.—The Rosita Mine, a new COPPER property near Tunki, was recently sold to the Tonopah Mining Co. of Nevada.—The new LAND LAW reserves for public use a certain zone on the coast of Nicaragua, on navigable rivers and lakes, and on the frontier adjoining Honduras. Native Nicaraguans who are heads of families may acquire a homestead of 50 hectares (123.5 acres) of land without payment, provided the preemptor lives on same for five years, builds a house, and cultivates at least one-fourth of the area. The foregoing applies to squatters who have already occupied and cultivated the land in the territory covered by the law. Homesteads shall not be sold, mortgaged, leased, or transferred. Natives and foreigners may preempt 350 hectares (865 acres) of agricultural land and 700 hectares (1,730 acres) of stock land. The agricultural settler must cultivate at least half of his claim and at the expiration of five years must pay \$1.28 per hectare (2.47 acres) for nonirrigable arable lands and \$2 for irrigated arable land. The stockman must keep at least one head of stock for each 3 hectares (7.41 acres) and must pay \$0.80 per hectare for mountainous or table-land covered with natural pasture. For timberland, which has construction wood, dyewood, rubber, or balsam, there will be an extra charge of 10 cents per hectare, and for land located within 20 kilometers (12.42 miles) of a railway line or navigable rivers or streams the prices will be doubled. Half the purchase price must be paid in cash and the remainder in Government bonds, the cash receipts to be used for educational purposes.



A recent CENSUS OF THE CITY OF PANAMA and outlying districts shows the population to be 60,761, made up of 30,793 males and 29,968 females. The number of Canal and Panama Railroad employees resident in the national capital is given as 7,621.—During the latter part of July, 1917, the GAS company began to supply gas to consumers in the City of Colon for lighting, cooking, and industrial purposes at prices varying from \$1.50 to \$2 per thousand feet. These prices are subject to a discount of 10 per cent for prompt payment. The company has two large purifying boxes and a gasometer with a capacity of 50,000 cubic feet. The gas used in Colon is made from oil, and there are no waste products.—On July 16 last the cable company established a DEFERRED RATE SERVICE from Panama to the United States, Canada, and certain European countries. The London and Paris rates have been reduced to 65 cents a

word.—Preliminary work has been commenced on the REBUILDING OF THE HIGHWAY between Panama and Paraiso and the widening of the same in places to 18 and 20 feet, instead of 12 and 15 feet, as originally planned. The road is to have a concrete base covered with an asphaltic concrete layer 2 inches thick.—According to press reports three small Costa Rican vessels with a carrying capacity of 50 tons of freight each recently commenced to make regular sailings between Port Limon and Colon. A short while ago one of these vessels brought a consignment of potatoes to Colon, which sold at such satisfactory prices that it is proposed to import more of these tubers from Costa Rica.—CECILIA THEATER in the city of Panama, the completion of which is promised in September, 1917, has a seating capacity of over 1,600 and is the largest structure of the kind in the Republic. It is the intention of the management to open this theater in September, 1917, with moving pictures. The building is estimated to cost \$70,000.—The Panama Morning Journal states that there are now over 100 new buildings, consisting of stores, apartments, and dwellings, being erected in Colon. Other buildings recently constructed or in process of construction on the Atlantic side of the Isthmus are the new hospital, the morgue, the storehouse at Mount Hope, and the concrete hotel, which is said to be the largest on the Canal Zone.—A group of Panamanian young men have started an ANTIALCOHOLIC CAMPAIGN in the city of Panama. Press reports state that the authorities are in sympathy with the movement and that much good is expected to result therefrom.—A contract has been made by the Government of Panama with the Sinclair Oil Corporation, under the terms of which the latter agrees to prospect for PETROLEUM, and if found in paying quantities to develop the industry in the Republic.—The PINEAPPLES of Toboga and of some of the interior provinces of Panama are said to be equal, if not superior, to the celebrated pineapples of Hawaii. No canning factory exists in the country, and but little of the fruit is exported. It is believed that a fruit-canning plant would be a profitable investment in the Republic.—A recent decree referring to the WELFARE AND MORALS OF YOUTHS forbids boys to remain on the streets in the city of Panama after 10 p. m., and prohibits their entering saloons and other disreputable places.



The BOARD OF TRADE OF ASUNCION, according to press reports, has taken preliminary steps looking to the construction of a large building to be used for offices and as the headquarters of the

organization. With the object of obtaining funds for this purpose, 8 per cent interest-bearing bonds are to be issued in denominations of 1,000 pesos each. The building is to be erected on a large lot centrally located. The edifice is planned to contain a number of small rooms not needed at present by the organization. These are to be let to office tenants.—At the suggestion of a number of the principal merchants of Villarrica a stock company has been organized under the name of the INDUSTRIAL AND COMMERCIAL AGENCY OF VILLARRICA with the object of engaging in the banking business and the exploitation of industrial enterprises. The company has the support not only of the merchants of Villarrica but also of the business men and planters of the surrounding country, which is one of the richest and most progressive sections of the Republic and the center of a growing business in agriculture, stock raising, and manufactures.—La Tribuna, a daily newspaper of Asuncion, states that the Board of Agriculture and Industries of the Government of Paraguay has approved and submitted to the consideration of the Department of Finance a REPORT OF THE AGRICULTURAL BANK for the fiscal year 1915–16, with the request that the same be printed and circulated abroad as a means of national propaganda. The board emphasizes the necessity of farmers and planters cooperating with the bank in encouraging the use of modern machinery and methods in agricultural operations, and advises the teaching in every way possible of practical and theoretical agriculture. The board also recommends an increase in the capital of the bank, so that money may be loaned on liberal terms to deserving farmers and at a moderate rate of interest. In 1916 the loans of the Agricultural Bank to tillers of the soil aggregated 8,915,169 pesos, as compared with 5,762,769 pesos in 1915, or an increase last year over the preceding year of 3,152,400. The receipts of the bank in 1916 representing payments of interest and loans amounted to 6,217,668 pesos, as compared with 2,710,218 pesos from the same sources in 1915.—The newspapers of the National Capital state that a law has been enacted granting certain concessions to a company of foreign capitalists for the establishment and operation of a MEAT PACKING and cold storage plant at some convenient point in the Republic.—During the first quarter of 1917 the CUSTOMS REVENUES of the Government of Paraguay amounted to 333,604 pesos gold and 14,124,887 pesos paper (gold peso=\$0.965; exchange rate of paper peso, about 1,550 per cent).—The value of the principal EXPORTS of Paraguay to the Argentine Republic, expressed in gold pesos and based on the export figures of 1915, was as follows: Cattle, 202,772; hides, 224,310; oranges, 320,567; tobacco, 274,791; Paraguayan tea, 846,874; and woods, 416,996.



PERU

Dr. José Pardo, President of the Republic, has reorganized his CABINET as follows: Dr. Francisco Tudela, Secretary of Foreign Relations; Dr. German Arenas, Secretary of the Interior; Col. Cesar Lafuente, Secretary of War; Dr. Baldomero Baldonado, Secretary of the Treasury, and Dr. Ricardo L. Flores, Secretary of Justice.—An executive decree of July 1, 1917, requires, unless specially excepted, accounts, invoices, bills of lading, maritime insurance policies, pay rolls, and receipts to be on STAMPED PAPER of the denomination prescribed in the tariff fixed by law. This paper is on sale in the Republic at the offices of the tax-collecting company.—From July 1, 1916, to March 31, 1917, receipts from the RAILWAY TRAFFIC of the Peruvian Corporation amounted to 8,302,392 soles (sol=\$0.486), as compared with 7,178,877 soles during the same period of 1915-16.—William G. Gastes has obtained a concession from the National Government to investigate a plan for the establishment on a large scale of an enterprise for the working of AURIFEROUS SANDS in the beds of rivers, and especially on the banks of the Inambari River and its principal tributaries, with the exception of such streams as have been covered by prior concessions. The concessionaire has the right to prospect to a distance of three kilometers on both sides of the Inambari River and 2½ kilometers on either side of the principal tributaries of said river. The islands and sand banks within the streams are included in this concession.—A recent executive decree requires the mint to pay to private parties the value of the silver and gold contained in bullion delivered by them to that institution, provided the gold and silver contents are not less than 0.500 and 0.333, respectively. Should the gold and silver contents of the bullion be less than the minimum mentioned, the amount of the payment is left to the discretion of the assayers. The mint is also authorized to charge for refining. Should the owners of bullion desire the return of the same, the mint shall be allowed 30 days in which to make delivery.—The President of the Republic has issued a decree providing subventions and revenues for the MILITARY HOSPITAL of San José Bartolomé in the city of Lima.—A recent executive decree provides that on and after July 1, 1917, the export duty on RUBBER from the Putumayo region shall be collected in accordance with the provisions of the decree of July 2, 1914, less a reduction of 50 per cent. The custom-house at Iquitos requires that rubber from the Putumayo district consigned to that port shall be delivered in sealed shipments for the purpose of preventing fraud and in order to protect the fiscal reve-

nues. The production of rubber from the Putumayo region in 1914 was 285,000 kilos, valued at £29,288 ($\text{£}=\$4.8665$), as compared with 476,285 kilos in 1915, valued at £30,875, and 453,044 kilos in 1916, valued at £48,000.—The National Government has accepted a bid for the ironwork to be used in the construction of a WHARF at Fronton Island, site of the new penal colony.—The Central Railway of Peru has adopted NEW FREIGHT TARIFFS comprised in 10 classifications which cover all classes of articles.—A bill has been introduced into Congress providing for the establishment of an AGRICULTURAL BANK with a capital of £300,000, 33 per cent of which is to be owned by the Government.



SALVADOR

According to a report of Tomas G. Paloma, Minister of Finance, Public Credit and Charities of the Government of Salvador, the FOREIGN TRADE of the Republic in 1916 aggregated \$17,900,340, consisting of imports, \$6,012,920, and exports, \$11,887,420. The same report gives the foreign trade for 1915 as \$14,757,157, made up of imports, \$4,182,292, and exports, \$10,574,865. The foreign trade of 1916 was \$3,143,183 in excess of that of 1915, of which amount \$1,830,628 represents imports and \$1,312,555 exports.—The CONSULAR LAW requires consuls to report monthly to the auditing department of the Government the amount of fees collected and expenditures incurred, and to render a detailed statement showing consular invoices issued and bills of lading legalized.—Press reports are to the effect that a large deposit of an excellent quality of IRON ORE has been discovered in Yaguatique.—The INTERNATIONAL COMMERCIAL ASSOCIATION of California, represented in the Republic of Salvador by Charles L. Curtiss, has established a branch office in the National Capital.—Representatives of the Central American Development Corporation of New York have submitted to the Department of Fomento of the Government of Salvador a proposed concession providing for the establishment of an ELECTRIC TRAMWAY SERVICE in the City of San Salvador for the transportation of freight and merchandise on streets and in the vicinity of the tramway lines of the old company, and in such other places as the National Government may deem expedient for the development of new streets and for the purpose of meeting the wants of a growing population. The proposed concessionaires ask for the right to build branches from the main lines at such places as they may deem proper, and to extend the same so as to meet the requirements of commerce. A request is also made for the right to use such streets, parks, and public bridges in the National Capital

as may be necessary for the passage of their lines. Among other things the would-be concessionaires desire the free importation of materials, machinery, equipment, and supplies needed in the installation, operation, and upkeep of the tramway. A subsidy of \$2,000 gold for each kilometer of road built outside of the city limits is also requested. If the concession is granted it is proposed to call the enterprise the Electric Railways of Salvador.—A bill has been introduced into the National Congress the object of which is to make the ATHENEUM of Salvador a state institution.—According to La Prensa, a daily newspaper of the national capital, the Republic of Salvador has now about 211,000 acres of coffee groves under cultivation. The exports of this product annually represent, approximately, a value of 7,900,000 pesos (peso = \$0.586). The last crop of coffee gathered in the Republic is estimated to have yielded 750,000 quintals (quintal = 100 pounds), 600,000 quintals of which were available for export.

A decorative horizontal banner with a floral and scrollwork border. The word "URUGUAY" is centered in a bold, serif font within the banner's frame.

URUGUAY

The INTERNATIONAL STOCK FAIR, under the auspices of the Board of Directors of the Rural Society of Uruguay, was opened in Montevideo on August 25 of the present year. The departments for the exhibits of poultry and swine are to be inaugurated on September 2, 1917. Steps have been taken looking to the securing of stock exhibits from Argentina, and to the sending, in future, of Uruguayan exhibits to Argentine stock fairs.—The Bureau of Statistics of the Department of Agriculture of the Government of Uruguay recently completed a census of fowls, which shows that there are in the Republic 242,718 cocks, 2,385,315 hens, 1,172,189 young chickens, 208,943 ducks, 82,689 turkeys, and 42,644 geese, or a total of 4,134,498 fowls.—The Coates Agency of Montevideo states that with the scheduling of regular TRAIN SERVICE BETWEEN MONTEVIDEO AND SÃO PAULO, Brazil, via Rivera on the Uruguayan-Brazilian frontier, which is the end of the broad-gauge road between the two places, another important link has been added in connecting by rail the principal cities of the southeastern part of the South American Continent. At present this through-train service is maintained weekly, the through train leaving Montevideo on Saturdays and São Paulo on Tuesdays, making the journey of 1,200 miles in four and one-half days. These trains are provided with Pullman and dining cars of American pattern, and steps have been taken to reduce the time to three and one-half days. Examination of baggage is made at the frontier stations. First-class passenger fare between the

terminals mentioned is equal to \$43 United States gold, with an additional charge of \$14 for a lower sleeping berth. The dining-car charges are \$1 per cover for table d'hôte lunch or dinner, and à la carte for other services. The service in Brazil is under American and in Uruguay under British direction.—The President of the Republic has made the Port of Dolores a PORT OF ENTRY for imports of fruits and vegetables and has provided the necessary governmental machinery for the proper handling of such shipments.—An executive decree of June 26 last permits FISHING WITH SEINES AND NETS until six months after the termination of the European war.—The FOREIGN COMMERCE of Uruguay from January to April, 1917, consisted of imports 12,148,938 pesos (peso = \$1.034), and exports, 29,792,052 pesos, compared, respectively, with 11,517,586 pesos and 23,043,571 pesos during the same period of 1916.—The Ulen Contracting Co. has offered a SCHOLARSHIP of 100 pesos (\$103.42) per month for one year, plus traveling expenses and matriculation fees, to a Uruguayan engineering student or recent graduate, appointed by the President of the Republic, to study sanitary engineering in the United States. President Viera has appointed Luis Giannattasio, who will study in the Massachusetts Institute of Technology, Boston.—According to the Montevideo Times the parliamentary committee, representing the Government of Uruguay, and the Central Uruguayan Railway Co., have arrived at an agreement on the question of increase in the RAILWAY TARIFFS, the company having accepted rates considerably lower than the increase it at one time threatened.—Press reports are to the effect that the Government has decided to contract with the Uruguayan Railway Co., subject to the approval of the Chambers, for the purchase of 35 kilometers (21.7 miles) of RAILWAY between Rocha and the port of Paloma, including equipment, shops, etc., as well as rails, ties, and other material for the construction of 50 kilometers (31 miles) of new road from Rocha to San Carlos, the purchase price to be 1,000,000 pesos (pesos = \$1.034) in 5 per cent Government bonds.—The new building of the BANK OF THE REPUBLIC, which it is proposed to erect on the south side of Independence Square in Montevideo, will cost 1,000,000 pesos (peso = \$1.034), not including the cost of the land.



The BUDGET of the Government of Venezuela for the fiscal year beginning July 1, 1917, and ending June 30, 1918, gives the estimated receipts as 44,120,000 bolivares (bolivar = 0.193), and the same amount as the estimated expenditures. The expenditures are dis-

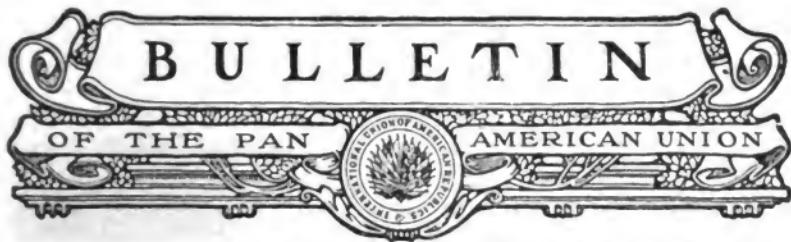
tributed as follows: Department of Interior, 9,340,026 bolivares; Department of Foreign Relations, 1,094,545; Department of the Treasury, 14,528,829; Department of War and Marine, 9,802,821; Department of Fomento, 3,027,270; Department of Public Works, 3,181,400; Department of Public Instruction, 2,703,991; and corrections to the budget, 441,118 bolivares.—An executive decree of June 27 provides for the establishment of a WIRELESS TELEGRAPH SCHOOL at Port Cabello. The course of instruction covers a period of two years.—A number of IMPORTANT LAWS were passed at the first regular session of the National Congress of 1917, among which may be mentioned the law governing the granting of railway concessions, that concerning cooperative societies, court procedure, the establishment of an Academy of Natural Sciences, the regulation of workshops and public establishments, and the law prescribing the oath of office which public officials are required to take before entering upon the discharge of their duties.—The exports of MINERAL PRODUCTS from Venezuela during the first six months of 1916 consisted of 732 kilos (kilo = 2.2046 pounds) of gold dust valued at \$362,484; 638 kilos of gold bullion, valued at \$326,186; 1,600 tons of magnesite, valued at \$3,088; 8,435 tons of copper ore, valued at \$184,532; and 16,686 tons of asphalt, valued at \$112,631. Comparing these figures with those of the same period of 1915 shows that while the magnesite shipments decreased by about 50 per cent, the exports of asphalt and copper ores were almost doubled.—Gen. Juan Vicente Gomez, President elect of the Republic of Venezuela, recently appealed to his countrymen to increase the area of land under cultivation for the purpose of producing a maximum quantity of food products. The efforts of Gen. Gomez are being seconded by the governors of the different States, some of whom have offered prizes for the largest production of rice, corn, and beans in their respective States. Venezuela has just harvested an unusually large crop of maize, and this cereal is now selling in the local markets of the country at about the equivalent of \$1.12 a bushel. The consul of the United States at La Guaira estimates that Venezuela now has 1,000 tons of maize available for export.—In accordance with a resolution of the SECOND VENEZUELAN MEDICAL CONGRESS, the Third Venezuelan Medical Congress will meet in Ciudad Bolívar in February, 1919.—The Government closed as ports of entry the customhouses at Barrancas and Guanta on July 1 last, making the port of entry for the former place Ciudad Bolívar and for the latter Puerto Sucre. Under a recent executive decree these ports are authorized to export products, as are the ports of San Felix, Rio Caribe, Higuerote, and Tucacas, but no imports can be made through them by vessels engaged in the foreign trade.—The EXPORTS FROM LA GUAIRA to the United States during the first half of 1917 consisted of cocoa, coffee, hides, raw sugar, an., beans, valued at \$2,180,698.—The total imports of ALCOHOLIC LIQUORS into Venezuela from the United States during the first six months of 1916 amounted to \$95,022. The imports of beer from the United States during the same period were valued at \$9,400 and those of wines, \$127,961.





Photograph by Harris & Ewing.

GENERAL VENUSTIANO CARRANZA,
Constitutionalist President of Mexico.



VOL. XLV.

SEPTEMBER, 1917.

No. 3

THE TURQUOISE IN SPANISH AMERICA¹

FROM remote times man has used minerals for ornamental purposes. First he employed them purely for their esthetic value, adorning his person and his belongings with bright-hued varieties; but later, with increasing development of mind, he gradually invested them with symbolical meaning, until they came to be associated with his deepest feelings and religious ideas. Because minerals of attractive color are widely distributed and in many places conspicuous in occurrence, they have naturally engaged the fancy of primitive man, wherever he happened to be; but owing to the rarity of choice specimens, they have rarely been found so abundantly as to become commonplace. Since mineral ornaments are resistant to the forces of decay and are readily preserved in graves and ruins they have come down to us in quantities, and now form important documents from which we can read the past.

Of the various minerals used for ornamental purposes none is more interesting and significant than turquoise. This is due to a unique blend of causes, which have peculiarly fitted this mineral for an important rôle. In the first place, owing to geological conditions of formation it is found almost exclusively in desert or arid regions, in places where the human struggle for existence has been intense, where vigorous races have developed and sent forth their influence and trade in many directions. Secondly, the mineral is superficial in occurrence, and shows on the surface as bright spots and stains, readily attracting the eye; its discovery, therefore, does not wait upon the development of mining methods, but takes place the first time that man with a developed color sense passes. Thirdly, owing to its relative softness, turquoise may be readily detached from its matrix and fashioned, even by the crude tools possessed by man in the early stone age of his develop-

¹ By Joseph E. Pogue, Ph. D., associate professor of geology and mineralogy, Northwestern University.



Photographs by D. B. Sterrett, of United States Geological Survey. Courtesy of National Academy of Sciences

TURQUOISE LOCALITIES IN NEW MEXICO.

Upper: Mount Chalchihuitl, near Los Cerrillos, New Mexico, where turquoise is still being mined; the main ancient workings are on the opposite side of the hill in the foreground. The higher mountain in the background is Mount McKensee.
Lower: Turquoise Mountain, Hatchito District, New Mexico, showing the desert character of region in which turquoise

Dumpheaps from turquoise workings may be seen on the hill.



Photograph by D. B. Sterrett, United States Geological Survey. Courtesy of National Academy of Sciences.

ANCIENT TURQUOISE WORKINGS IN NEW MEXICO.

These ancient workings are on the north side of Mount Chalchihuitl, near Los Cerrillos, and show immense pits excavated in pre-Spanish times.

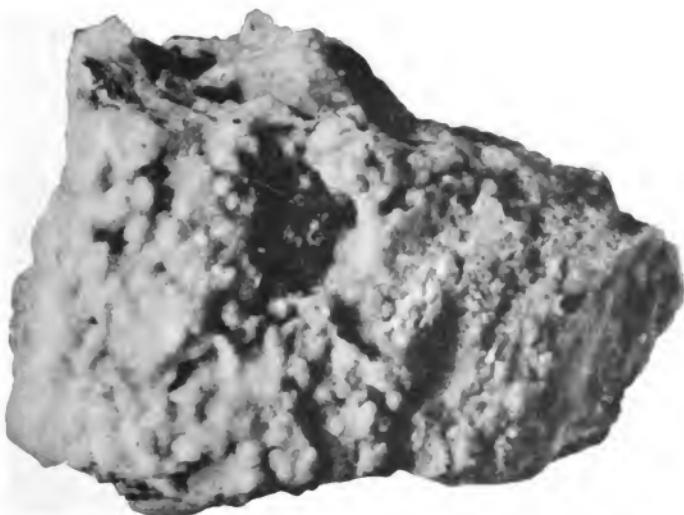
ment. Finally, the color of turquoise ranges from green to blue, and these are precisely those colors which are of profoundest meaning in a desert habitat, because they are suggestive of water, of verdure, of the sky, and readily become symbolical of nature and life.

Occurring, therefore, where man has evolved, lying in the path of his racial migrations, conspicuous, superficial, and soft, colored with the hues that nature lavishes in her kindlier moods, turquoise has naturally enjoyed a wide and varied use for thousands of years.

At the beginning of the sixteenth century, turquoise was well known in Europe, whither it had been introduced ages before from Asia, where its principal deposits are located and its utilization had gone on from time immemorial. At the time of the discovery and colonization of the Americas, therefore, this stone was familiar to the Spaniards and prized to some extent by them, although it was not looked upon as a precious stone par excellence, such as, for example, the emerald; but it was valuable enough to attract their attention when they found it employed by the more cultivated races of the New World, and it played a minor part in firing the imaginations of the conquerors to the point where they were ready to brave the dangers of the unknown for the sake of the treasure that they confidently expected to find in compensation for their toil and daring.

The first Spaniard to come in contact with turquoise in America was Juan de Grijalva, who in 1518 penetrated Yucatan and obtained from the Indians various ornaments, including several masks of wood covered with mosaics of turquoise and four turquoise-encrusted ear pendants. These objects indicated at once that they were the handiwork of no crude barbarians, but of a race with considerable pretensions to technical and artistic ability. These intimations of culture were fully borne out the following year, when the intrepid Cortés landed on the coast of Mexico and, entering into negotiations with Montezuma, the ruler of the Aztec tribes, was presented with princely gifts, among which a wooden mask covered with turquoise mosaic in a coiled-snake design and a number of turquoise-adorned objects used in the Aztec religious ceremonies, were the most notable. These objects were the insignia of Quetzalcoatl, the traditional serpent deity and mysterious hero god of the Aztecs, and their presentation to Cortés suggests that the Spanish leader was thought to be a reincarnation of this fair-skinned god returning from the East, according to ancient prophecy.

Cortés and his followers soon penetrated to the Valley of Mexico, the center of the Aztec domain, where now stands Mexico City, and with a few bold strokes took Montezuma prisoner and broke the spirit of the Aztec dominion. Numerous are the accounts of the customs, and particularly the bloody religious rites of these Indians; and all unite in frequent reference to the varied use of turquoise and of a green stone called chalchihuitl, probably jade. Not only were



Courtesy of National Academy of Sciences.

SPECIMENS OF TURQUOISE FOUND IN THE UNITED STATES.

Top: Specimen showing turquoise vein in country rock, from Mineral Park, Ariz. Bottom: Specimen of crystallized turquoise, from Campbell County, Va.



Courtesy of National Academy of Sciences.

RELICS OF ANCIENT TURQUOISE WORKERS.

Top: Ancient Mexican breast ornament of wood, covered with turquoise mosaic. (Now in the British Museum.) Bottom: Ancient stone hammers found in turquoise workings on Mount Chalchihuitl, N. Mex.

these gems used as personal ornaments by the upper classes, who alone were permitted to so employ them, but more particularly did they enter into the decoration of the religious paraphernalia which played such a conspicuous part in the ceremonies and rituals. Growing out of this wide application, these stones became intimately associated with the ideas of these people, and the native religion, legends, and superstitions were replete with allusions to their fancied properties.

Of all the turquoise-adorned objects used by the Aztecs and allied Indians (for the Maya, Quiché, and kindred peoples of Central America seem to have utilized the turquoise in much the same manner as did the Nahuan tribes, or Aztecs, of Mexico), none is more striking in appearance or notable in technique than the wonderful mosaics, such as we have seen were presented to Grijalva and Cortés. Only 24 examples of this art have come down to us, and through a strange coincidence of circumstances, only 1 of the 24 is on the American Continent to-day—an imperfectly preserved mask found in Honduras and now to be seen in the United States National Museum. The others went to Europe in the early Spanish days, and, after passing through the hands of numerous private collectors, found a resting place in the leading continental museums, such as the British Museum, the Prehistoric and Ethnographical Museum in Rome, the Royal Museum for Ethnology in Berlin, and others, where they are ranked among the most valuable specimens in these collections of priceless materials.

These mosaics in common consist of a base of wood or bone, upon which are cemented innumerable tiny, polished bits of brightly colored minerals or varicolored shell, making a mosaic covering of striking pattern, shade, and perfection. The minerals employed were turquoise, jade, malachite, quartz, beryl, garnet, obsidian, pyrite, and gold; but in many turquoise dominates and gives to the piece a beautiful greenish or bluish aspect. Most of the objects are masks in the form of a human or animal face, used during religious ceremonies for decorating idols or their priestly representatives; but among the examples known are shields, pectoral ornaments, and knife handles, all, however, probably employed in sacred rites. These remarkable objects were the insignia of the native gods and represent the highest artistic productions of the American aborigine. They are, indeed, among the finest handiwork attained in any region by man in the stone-age stage of his development.

The most spectacular of these objects, as shown in figure 1, is a human skull overlain with alternate horizontal bands of turquoise mosaic and highly polished obsidian, with knoblike eyes of shiny pyrite and natural teeth. This ghastly death head has its back cut away to permit of its being worn as a mask on ceremonial occasions, and it typifies the cult whose crowning creations have been said to be "the bloodiest gods in the whole realm of human barbarism."



Photograph by Joyce. Courtesy of Art and Archaeology.

TURQUOISE USED IN MOSAIC WORK OF THE AZTECS.

A shield-disk of wood, 12 $\frac{1}{2}$ inches in diameter, which is inlaid in a masterly manner with minute tablets of turquoise, pyrites, and shell. Many of the settings have fallen out, but enough remain to make the design intelligible. In the center is a calendar disk inlaid with turquoise and pink shell, about which meanders the form of a highly conventionalized plumed serpent.



Photograph by Joyce. Courtesy of National Academy of Sciences.

A FINE SPECIMEN OF ANCIENT AZTEC MASK.

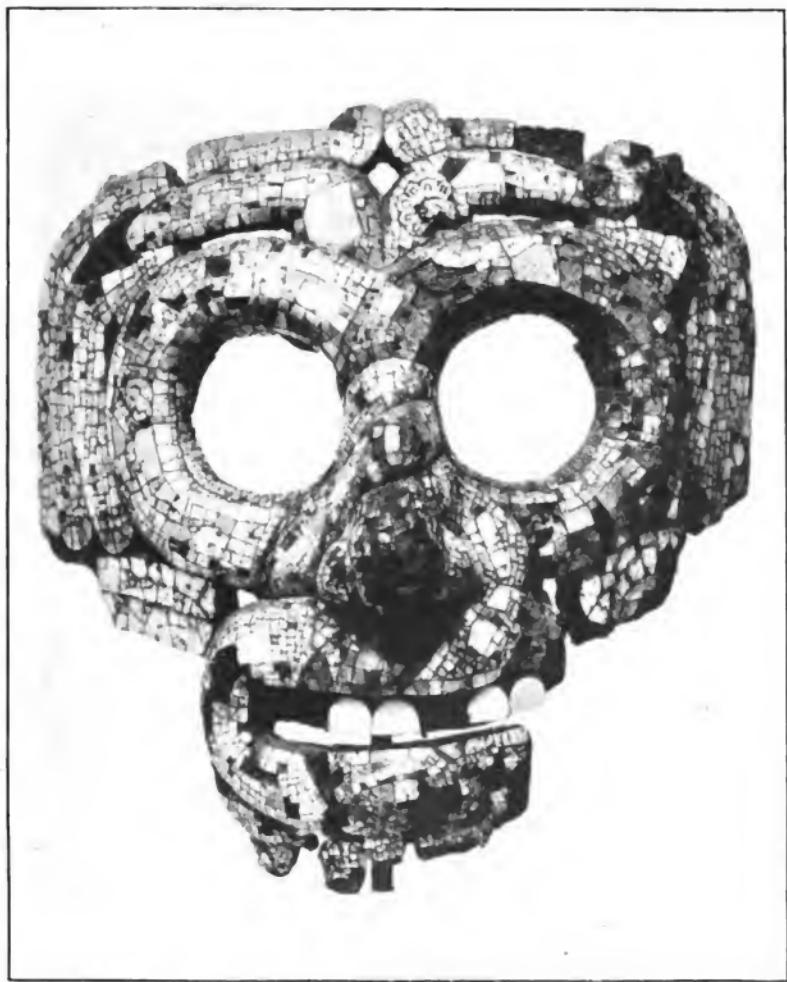
"The most perfectly preserved specimen is a mask of cedar cut to fit the human face. Its surface is covered with accurately fitted, polished slabs of turquoise, thousands in number and brilliant blue in color. The face is studded with knobs of turquoise, and the teeth and eyes are gleaming mother-of-pearl. This object occupies a conspicuous position in the British Museum, and it oppresses the spectator with a strange and mingled sense of hideousness and barbaric beauty."

The most perfectly preserved specimen is a mask of cedar cut to fit the human face. (See fig. 2.) Its surface is covered with accurately fitted, polished slabs of turquoise, thousands in number and brilliant-blue in color. The face is studded with knobs of turquoise and the teeth and eyes are gleaming mother-of-pearl. This object occupies a conspicuous position in the British Museum, and it oppresses the spectator with a strange and mingled sense of hideousness and barbaric beauty.

A third mask is of unusual interest, because it was probably presented to Cortéz by Montezuma. This also is of cedar wood, but carved in the form of two rattlesnakes entwined to represent the human face. Its front is covered with a mosaic of turquoise, of bright blue and dull green color, so disposed as to give to the two snakes a different shade. We may surmise a symbolic relation between the use of blue-green turquoise and the snake design so persistent in Aztec art. This object undoubtedly pertained to the serpent-deity Quetzalcoatl, and its presentation to Cortéz is indicative of the superstitious reverence with which the invaders were at first received.

While the mosaic art represents the highest technical and symbolical application of turquoise in ancient Mexico and Central America, this mineral was also used more simply for ornamental purposes, as indicated by beads of this material unearthed from graves along the southern coast of Mexico. Turquoise was also occasionally used in a very peculiar manner for inserting into cavities bored into the teeth, presumably for ornamental effect. This custom of dental mutilation was practiced rather extensively in southern North America, various materials being used. In 1882 an upper jawbone was exhumed from a sepulcher in Yucatan, which showed six teeth inset with knobs of polished, blue-green turquoise.

That turquoise had been used in middle America for ages before the Spanish conquest is evidenced not only by the advanced use to which it was being put when the Spaniards came, but also by the numerous references to it in the traditional history of the culture that preceded the Aztecs and their neighbors. Sahagun, the Spanish historian, has gathered the myths and traditions of these early peoples and he writes most entertainingly, if not always convincingly, of the ancient Toltecs, who were supposed to be the first inhabitants of Mexico. According to his accounts the Toltecs, on first coming into Mexico, discovered deposits of emeralds and turquoises, and being clever artisans they worked these stones into ornaments and beautiful golden jewelry. They constructed a four-room temple for their priest Quetzalcoatl, and decorated the apartment looking toward the West "with mosaic work of emerald and turquoise in a most beautiful manner." Not only were they the first to use precious stones but they used an ingenious method, no doubt more efficacious than the modern divining rod, for locating these treasures.



Photograph by Joyce. Courtesy of National Academy of Sciences.

ANCIENT AZTEC MASK IN BRITISH MUSEUM.

Although this object is incomplete, the lower part of the face being gone, the main features are readily traced. The foundation is of cedar wood carved in the form of two rattlesnakes entwined to represent the human face. Its front is covered with a mosaic of turquoise, of bright blue and dull green color, so disposed as to give the two snakes a different shade.



Photograph by Joyce.



Courtesy of Art and Archaeology.

RELICS OF PERUVIAN AND AZTEC ART.

Top: Left, handle of a spatula or dagger of bone embellished with figures partly inlaid in turquoise and pyrites and partly engraved. The handle is carved to represent a human hand and arm. Right, the design extended as it appears on the other side of the handle. Bottom: A sacrificial knife of the Aztecs having a yellow opalescent chalcedony blade and handle of light-colored wood carved in the form of a crouching man masked with a bird skin and embellished with brilliant mosaic settings of turquoise, malachite, and white and red shells. Length, 12 inches.

Their manner of making such discoveries was the following: They would get up very early in the morning and go up to an eminence, and turn their heads toward the place where the sun had to rise; when it rose they carefully looked in every direction to see in what place any precious stone might be hidden: they would especially look for them in places that were damp or wet, and particularly at the moment when the sun was rising; then a slight smoke would go up quite high, and there they found the precious stones under the earth or inside of another stone, whence the smoke would issue.

After conquering the Indians of Mexico the Spaniards, following up vague rumors of riches lying to the north, sent forth several expeditions in quick succession to explore and subjugate the plateau country of present New Mexico and Arizona. The accounts of these expeditions tell us that turquoise was known and prized throughout that region, but as the Indians living there were not so cultured as the Aztecs the utilization and meaning of the turquoise were more primitive. Recent archeological explorations in the southwest, however, have brought to light numbers of turquoise-incrusted ornaments, which show that the art of encrusting objects with mineral mosaics had been attained, though not carried to such a high degree of perfection as in Mexico. Even the ruins of that mysterious race known as the cliff dwellers, who built their habitations in clefts in the sheer walls of arid canyons, have yielded a few simple mosaics of turquoise. Exploration of ancient Pueblo Bonito, in Chaco Canyon, northwestern New Mexico, brought to light the most remarkable series of turquoise ornaments yet found in the southwest, including thousands of beads, pendants, and carvings of turquoise and numbers of mosaic-encrusted objects.

The great abundance of turquoise in use north of Mexico and the predominance of its ornamental, rather than symbolical, application suggests that it was a more common material here than farther south. Hence we are not surprised that the Spaniards quickly came upon important deposits of this mineral. They discovered at Los Cerrillos, near the present town of Sante Fe, in New Mexico, a large excavation from which the natives had been obtaining their supplies of turquoise for ages; and we now know that this was in all probability the source of the turquoise used by the Aztecs, for in entire Mexico there are no turquoise deposits of importance, and while this mineral occurs elsewhere in the Southwest the Los Cerrillos deposits alone show prehistoric workings of sufficient magnitude to have yielded the quantities of turquoise employed. The Spaniards seized these mines and worked them for their own profit, forcing the Indians to do the labor. Galled by this oppression, the natives rose against the Spaniards and drove them out of New Mexico in 1680, but their liberty was short lived, for, in 1700, the Spaniards had reestablished themselves in this region; but mining at Los Cerrillos was not actively resumed until recent times.



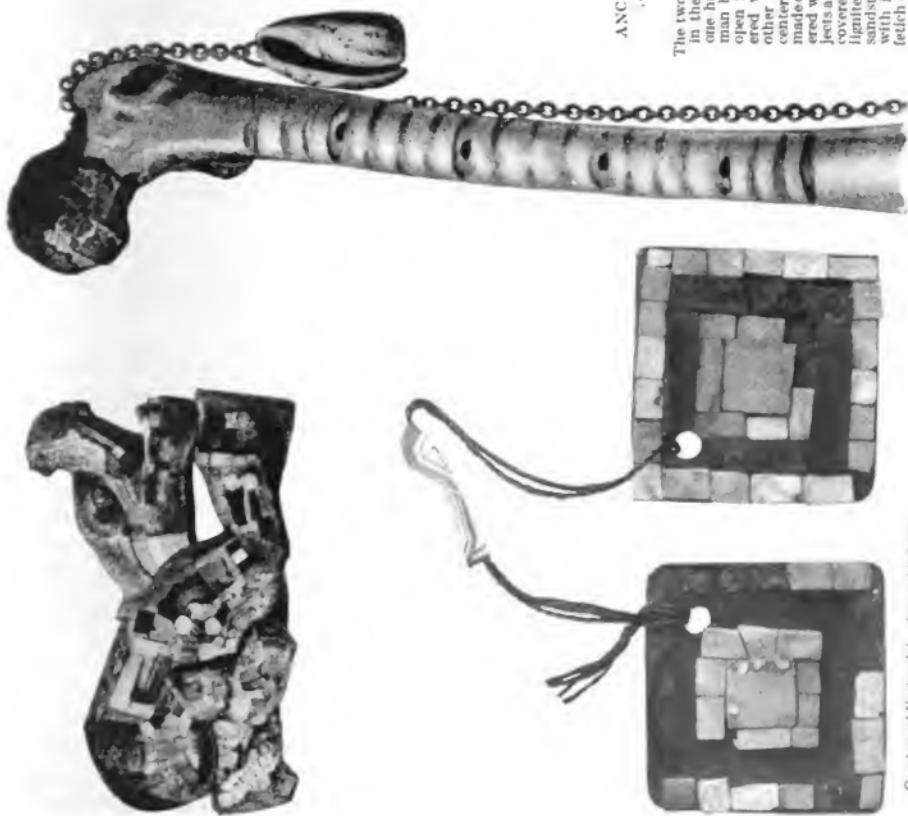
Courtesy of National Academy of Sciences.

OBJECTS DECORATED WITH TURQUOISE FROM ANCIENT PUEBLO.

According to Dr. Pogue, the most important series of turquoise objects yet found in the United States is the result of explorations made in 1896 by George H. Pepper in the ancient Pueblo Bonito of Chaco Canyon, New Mexico. Mosaics, carvings, beads, and pendants in great quantity and variety were found in the burial rooms and accompanying the skeletons of the former inhabitants. Three of these objects are shown in the above photograph. One is a "bone scraper" formed of the humerus of a deer or elk and decorated about its center with an inlay of jet and turquoise. Another is designed to represent a frog with carefully rounded and polished body, the eyes being two large rounded pieces of turquoise standing boldly out, while across the neck is a broad inlaid band of the same material. The third is a head or breast ornament made of polished jet, its four corners set with circular turquoise.

ANCIENT INDIAN MOSAICS
.ADORNED WITH
TURQUOISE.

The two upper objects are knife handles in the form of crouching figures, the one human and the other with a human body and an animal's head with open mouth. Both are entirely covered with mosaic of turquoise and other minerals. The object in the center is a musical instrument or rattle made of a human femur, with ball covered with mosaic. The lower left objects are a pair of ear pendants of lignite covered with mosaic of turquoise and lignite slabs; lower right, a felch of sandstone, dipped in blood and inset with irregular turquoise slabs and a fetich of eye-pum with turquoise eyes.



Shifting our attention to South America, we find that turquoise was used rather extensively by certain prehistoric tribes of that continent, particularly those formerly living in the region of present-day Peru and northwest Argentina; but nowhere was its application as highly developed as we have seen it to have been in ancient Mexico. In Peru, the home of the old Inca race, as we would expect, this stone enjoyed the most artistic application attained by it in South America, although it was more abundantly utilized by tribes living south of the Inca domain.

The Incas, as we know from the writings of Spanish chroniclers, but more particularly from objects collected by explorers and archeological expeditions, used beads and earrings of turquoise for purposes of personal adornment, but they held this mineral in less esteem than the emerald, which they obtained through barter with the Chibcha race of Colombia. Of their symbolic use of turquoise, or of the beliefs they associated with this stone, we know nothing. Among these people, inlaying upon wood, shell, or bone was practiced, and turquoise was one of the materials used for this purpose. The turquoise mosaics of Inca workmanship, however, judging from two examples in the British Museum, the only ones we know of, were not only inferior to those of Aztec origin but were scarcely equal to the best work of the ancient Indians of New Mexico and Arizona. The more interesting of these two examples is a long mammalian bone carved to represent a forearm and decorated with engravings of various objects and figures, inlaid with small plates of pyrite and blue-green turquoise.

The Indians of pre-Spanish and early Spanish time inhabiting the arid plateaus of the region where Chile, Bolivia, and Argentina now adjoin seem to have used the turquoise in much greater profusion than the more cultured Incas to the north, for, while the remains of these tribes as yet have been only imperfectly investigated, great numbers of beads, pendants, or other simple ornaments of turquoise, have been taken from their graves and ruins.

The source of the turquoise employed in Central-western South America presents a rather perplexing problem. Outside of the limited territory noted, turquoise is not known to have been utilized. No deposits of turquoise of any consequence whatsoever have as yet been discovered on this continent. Either this mineral came all the way from Mexico, or else was obtained from local deposits not now known. The first source seems an improbable one, in view of the fact that tribes living between the Aztec and Inca domains, in the path of such trade routes as might have existed, especially the highly developed Chibchas of Colombia, have left no evidence of any acquaintanceship with this stone. The writer, therefore, ventures the suggestion that turquoise deposits await rediscovery in or adjacent to the desert of Atacama. The geological conditions there are



Photograph by Walter Hough. Courtesy of National Academy of Sciences.

PUEBLO INDIAN DRILLING TURQUOISE BEADS.

"The Pueblo Indians find great pleasure in turquoise, and seldom is a well-to-do representative seen without ornaments of this material. Especially upon gala occasions and during ceremonies is this stone in evidence, and both sexes bedizen themselves with quantities of it. The turquoise is most commonly fashioned into discoidal and cylindrical beads and into various-sized pendants of oblong, triangular, and keystone outline. The work is performed by rubbing the material on sandstone and polishing on finer material, and the objects are perforated with a bow drill, usually tipped with a fragment of quartz or flint." (From "The Turquoise," by Joseph E. Fugue, Ph. D., Memoirs of the National Academy of Sciences.)

suitable for the occurrence of this mineral, and its presence should be sought. Should this deduction prove correct, it will form an interesting example of how two independent sciences, geology and archeology, may cooperate to a practical end.

When we turn from the past to the present, we find that turquoise has dropped entirely out of use not only among the natives of South America but in Central America and Mexico as well. Its disuse marks the passing of their ancient culture. But in the arid plateau country of New Mexico and Arizona, that region generally spoken of in the United States as the Southwest, turquoise still holds as vigorous a claim on the interests of the Indians as it did of old, and no traveler through this region fails to note the abundance of turquoise ornaments in use, no ethnologist omits to study the fundamental part that this precious stone plays in the thoughts and lives of these desert tribes.

In a very general way, the Indians of the Southwest may be divided into two classes—those living in villages or pueblos, such as the Hopi and Zuñi, to name the two best known examples, and those with no fixed habitation, the nomads, like the Navajo. Both know the turquoise well, prize it highly, and invest it with deep meaning. This is readily appreciated when we recall the peculiar trend of color symbolism in an arid country—how deep-meaning blues and greens become under desert conditions.

It would require many pages to describe the use and lore of turquoise among these Indians. We can touch a few points only. The most common ornaments are discoidal and cylindrical beads strung on cord to form bracelets and necklaces, and various-sized pendants of oblong, triangular, or keystone outline worn suspended from the ears or introduced into the strings of beads for the sake of variety. Many finger rings and other metal ornaments, especially among the Navajos, who are exceptionally clever silversmiths, are set with turquoise; and the mineral also is not infrequently used for currency. Furthermore, turquoise is employed, though less commonly, for inlaying ornaments and objects of utility, and small slabs of this material are fashioned into mosaics of beauty, as, for example, the Hopi ear pendants, but the best of these are far inferior to the superb examples made of old by the Aztecs.

In addition to its ornamental use, turquoise finds application by virtue of its supposed efficacy, and consequently is prominent in many charms, amulets, and fetishes. It also figures in numerous rituals, as it possesses a religious significance; and it enters fundamentally into the myths and traditions of the various tribes.

The Navajos have a pretty belief that turquoise is particularly sacred to the wind spirit, and they offer many stones to this deity, whose anger must thus be appeased in order that the wind may stop blowing and rain result. When the wind is blowing, the Indians say it is searching for turquoise.

THE FIRST AUTOMOBILE TRIP OVER THE ANDES

TO CROSS the Andes from Mendoza, Argentina, to Los Andes, Chile, in an automobile is a feat that to anyone who has seen this section of that tremendous mountain system would seem well-nigh impossible. The distance is only about 155 miles—but the road! Once upon a time, prior to the building of the trans-Andine railway, there was a roadway, really a somewhat widened mule trail, that ascended steep inclines, wound around sharp corners of cliffs, zigzagged and curved along the edges of deep gorges, and crossed turbulent mountain torrents, but that was long before automobile days and only the most skillful and reckless drivers dared to take the stout coaches on a journey across. But even this road, now fallen practically into disuse as far as wheeled vehicles are concerned, has been blocked by fallen boulders, washed away in some parts, and crumbled into narrow trails in others, so that there is more or less danger for even mule-back riders to make the trip.

All of the discouraging facts had been carefully and warningly impressed upon one Mr. Johnson Martin, manager of a certain American automobile agency in Buenos Aires. But Mr. Johnson Martin had his heart set on taking one of his machines across the continent of South America from Buenos Aires to Valparaiso, Chile; and once a typical six-foot, red-blooded American athlete acquires a real yearning to do a certain thing nothing but hitting him in the head with an ax or putting him in chains will prevent his attempting it. Hence, no one having hit him with the ax nor put him in chains, Mr. Martin proceeded serenely from his garage in Buenos Aires one fine morning in January, with Valparaiso as his objective destination. He took the precaution, however, to select for his companion on the trip a young Swedish-American mechanic by the name of Otto Johanson, in which proceeding subsequent events showed that Mr. Martin was wise.

The trip from Buenos Aires across the pampas to Mendoza even is by no means an easy one. Among other obstacles, a little to the west of the town of Vicuña Mckenna, a high ridge of sand dunes extends across the direct route to Mendoza, and many enterprising automobilists have tried to pass over it without success. According to Martin these dunes "had stopped every motor car that had ever rushed them but three, and we were the third." How he and his mechanician pushed and pulled the car through the soft places in the



FIRST AUTOMOBILE TRIP OVER THE ANDES.

Top: Mr. Johnson Martin and his mechanician, Otto Johanson, leaving the garage in Buenos Aires for their transcontinental journey. Middle: Stopping at the Argentine Automobile Club in Buenos Aires. Bottom: Stopping at the town of Viena Mackenna for luncheon.

FIRST AUTOMOBILE TRIP OVER THE ANDES.

Top: Entering the town of Laboulaye, where the third night of the journey was spent. Middle: A sandy section of the road, near the town of Vicuña Mackenna. Bottom: Just after having passed safely over the Desaguadero bridge, a part of the flooring of which had fallen in.





FIRST AUTOMOBILE TRIP OVER THE ANDES.

Top: In the region of the sand dunes, the greatest obstacle to automobilists in crossing Argentina before arriving at Mendoza. Middle: The machine after it had crossed the sand dunes. Bottom: Nearing the foothills of the Andes after leaving Mendoza.

sand barrier; how the car at one time, while both were out pushing it along, got away from them by an accidental opening of the throttle, ran off the road and wrecked itself in a dense thicket; and various other mishaps experienced before they reached Mendoza, form an interesting but necessarily omitted part of the story of the trip.

All of the difficulties of the first portion of the journey, however, were slight when compared with those that presented themselves when the Andes were reached. Some idea of the magnitude of the task of driving an automobile from Mendoza, via the Uspallata Pass and Punta de Vacas, to Santiago may be had from the following excerpts, taken from Mr. Martin's own account of the journey. He and Johanson had spent about three days in Mendoza cleaning and repairing their damaged car, when they set out for Punta de Vacas, notwithstanding many efforts to dissuade them. To reach that point it was necessary to follow up the valley of the Mendoza River from Uspallata—but to quote Mr. Martin:

Leaving Mendoza in the direction of Villavicencio by a wide detour to the north, we fell in with a gang of laborers after having gone about 6 miles, and they advised us to avoid Villavicencio, as the road ended abruptly there, but indicated a stream in the distance whose dry bed would lead us up into the Cordillera Bonilla, where, if we had sufficient dry weather, good luck, and horsepower to arrive on top of it, we would find a lead mine, from which a trail led to Uspallata. Two landmarks were mentioned, one of them a hut under some fig trees with a spring near it, called Las Higueras. We got to this spring at 4 that afternoon, and just in time, for our motor was steaming and we had no water at all. Filling up our radiator can, our horn bulb, and a demijohn we purchased from the old Indian who lived there, we went on worrying our way through the loose stones and gravel of the stream bed, and in the four remaining hours up to 8 that night we made just 4 kilometers. Although the hut seemed to be just below us, we decided to sleep where we were.

We were awakened by the cold at 4 in the morning, and after a pot of coffee, we were glad to get in motion up a canyon between high gravel banks and rocky walls on either side. A heavy thunderstorm would have ended our trip at this point, for there was no escape for the car from this canyon for several miles until we came out on the summit of this Bonilla range of foothills, at an altitude of 9,000 feet, and were in full view of the magnificent snow-capped row of mountains comprising the summit range. We had climbed steadily up a heavy grade, but fortunately the stream had no falls or breaks in its course and our tires had stood the terrific going wonderfully well, although beginning to show many short deep cuts. From this place we followed a faint trail down to the mine of which we had heard, and at two in the afternoon came into the Uspallata Valley. Here beside an ice-cold stream we bathed and made coffee and feasted on tinned salmon, wasting an hour, only to find on rounding a bank that we were within a hundred yards of the ranch house of Uspallata, a fine property owned by a prominent Chilean and an equally influential Argentine gentleman, Dr. Villanueva, who had recently been acting president of Argentina.

The Chilean gentleman, Señor Correa, received us very graciously and insisted on our spending several days with him, which we did. He urged us not to attempt to go on, however, as the trail was highly dangerous and difficult even for mule travel, and insisted on our making a trip on his own saddle mules to see for ourselves.

Accordingly we set out next morning with food and a guide to see the Cortadera, which he assured us would be the limit of our activity in that direction. After 14



FIRST AUTOMOBILE TRIP OVER THE ANDES.

Top: "We at once became the center of a sort of avalanche of loose stones and gravel, and went sliding, skidding, and rolling down the slope; and by easing off on the brake we saved the tires and rolled onto the little trail away down below." Middle: Looking back at the sand dunes just crossed. Bottom: High up in the Andes, looking down on Zanjón Amarillo station on the trans-Andine Railway.



FIRST AUTOMOBILE
TRIP OVER THE AN-
DES.

TOP: "All the next day we crawled along the hillsides running short stretches, then going ahead to roll stones out of the trail." Middle: "Crossing the Licebeata bridge by tearing down one of the guard walls with a crowbar. Bottom: Camping for the night after a strenuous day on the Andean heights.



FIRST AUTOMOBILE TRIP OVER THE ANDES.

Upper: Punta de Vacas, a station of the trans-Andine Railway, which was formerly the terminus of the Argentine section of the road before the completion of the railway through the celebrated tunnel which cuts through a mountain on the dividing line between Argentina and Chile. Lower: A view of Puente del Inca, the celebrated thermal resort of the Andes.

hours' continuous riding I crawled out of the saddle that night and held on to a post for some time until the temporary paralysis of my legs passed, but we had decided that with a pair of strong, well-saddled, and cinched horses and two or three men to help us roll stones and pile rocks into some of the places where the trail was crossed by deep cuts washed out by slides, we could get beyond the *Cortadera*; and were willing to try even at the risk of being forced to dismantle and junk our car.

Señor Correa's sporting blood was up, and he enthusiastically called in his men and gave orders for several of them to be ready, and the next day, a beautiful Sunday, after receiving letters from Señor Correa certifying to our arrival, we set out for Zanjón Amarillo and Punta de Vacas, followed by most of the small army of employees of the estate.

The men were instructed to help us repair the roads, and we were assured by Señor Correa that we might tear away one of the stone guard-walls of the historic old arched bridge over the Picheuta River. This bridge was originally made necessary by reason of the swiftness and coldness of the stream and its sudden rise when the sun melts the snow above, which feeds it. Built for horsemen and cattle, it forms a perfect arch, but of such small radius that it was a very difficult looking obstacle, with just 4 inches less than the needed clearance between the walls.

A short drive over the meadows brought us to a steep bank overlooking the Mendoza River, up which we were to follow for four days, and in order to begin climbing we had first to descend in order to strike the trail which leads up the river on the right hand bank and is in plain view of the trans-Andine Railway line which follows up along the opposite side of the deep valley. So, after shutting down our motor and setting the emergency brake part way, we climbed into the car and were pushed over the edge of a big, rocky slope, for the mule trail descended by a series of such short zigzags as to be out of the question. We at once became the center of a sort of avalanche of loose stones and gravel, and went sliding, skidding, and rolling down the slope, and by easing off on the brake we saved the tires and rolled onto the little trail away down below. No harm done and several hours' work with tackle saved.

All the next day we crawled along the side hills, running short stretches, then going ahead to roll stones out of the trail, the men who had camped with us going ahead with their horses to clear away some of the rocks. That night, after a supper of "asado," or tenderloin of beef roasted on a spit over coals, we slept on the rocks again, alongside the Tambillito, directly opposite the point where the Rio Blanco switchback is located on the railway. We had to cross two smaller streams next day by the slow process of throwing large stones into them until we made a rude ford, shallow enough to bounce through on and which worked out very well except that on one crossing we had to do a lot of submarine jacking in the cold water to get the differential raised over a big boulder. How the tires stood these days of tearing and jamming among the jagged rocks I do not know.

In the afternoon we came to the Picheuta bridge, which we tried to dodge by our ordinary method of throwing in rocks, but the current was so swift that the rocks went on thumping down the mountain side, so we set to work with our crowbar tearing down one of the guardwalls and with the motor running and the two horses pulling on the double block and tackle, we steered her carefully along the extreme edge of the crumbly old wall, the flywheel clearing the floor in the middle of the arch by an inch. Except by crossing this bridge there is no way to motor to Punta de Vacas, so we shook hands all round and continued on up to the "*Cortadera*," our next appointed task.

We camped at the foot of the *Cortadera* at three in the afternoon, and started in to remove the gasoline tank, tool boxes, body, and other readily demountable parts of the car, and then began to worry our way up the side of the cliff. The turns were so sharp and frequent and the straightaways between them so very steep that it was necessary to plant the iron bar between boulders or in the ground, fasten the double

FIRST AUTOMOBILE TRIP OVER THE ANDES.

Upper: A stop at the ranch house of Uspallata, where Mr. Martin and his mechanician were entertained for several days. Lower: Setting out on mule back to investigate the trail beyond Uspallata to determine the possibility of proceeding farther on the trip.





FIRST AUTOMOBILE TRIP OVER THE ANDES.

Upper: Uspallata station, on the Argentine side of the Cordillera, located at an elevation of about 5,600 feet, on the trans-Andine Railway. Lower: Junca, a station on the trans-Andine Railway, on the Chilean side of the Cordillera.

FIRST AUTOMOBILE TRIP OVER THE ANDES.
Upper picture: Passing through a village where the street was flooded from a broken irrigation ditch. Lower picture: A short stop at Zanjón Amarillo station in the heart of the Andes.



tackle to the axle and hitch two horses to the tackle, the riders having to ride down the face of the mountain in some hair-raising places. These fellows, proud of their mastery of their mounts, did not hesitate to take awful chances on the breaking of the line, and little by little, with many shifts of the tackle and endless blocking of the wheels, foot by foot we climbed until dark. Then around a big fire we had a good dinner of "asado," fresh bread brought from Zanjón Amarillo several miles above, and wine of the red kind produced around Mendoza.

In the morning, after sipping our yerba mate, we climbed up to where we had left the car blocking the trail. Shouting, yipping, and tugging, pushing and sweating, we worked until noon, then again all the afternoon until 5 o'clock, when we reached a turn in the rocks where the level trail came out. Following back along it, we came to the great gap of 200 feet across to where the trail continued, and looking down some 300 feet we could see why we had had to clamber up this new and jagged trail.

We continued toward Las Polvaredas opposite to Zanjón Amarillo station, and passed far above the latter high on the mountain side, spending the night with old Don Juan Oro, who has lived up here for a number of years entirely cut off from the world for months at a time in winter and in summer too, except for a slender wire cable bridge communicating with Zanjón Amarillo station. Several of the turns on the jutting face of the mountain were rather shaky, as there was an old stone retaining wall holding the trail like a sort of balcony to the side of the mountain, and as this had never been passed by a vehicle we began to ask ourselves what assurance we had that it would stand being passed over by a ton of steel and flesh.

We passed along the side of the great slope safely, stopping to shovel the fine gravel in places where it crowded us out toward the edge of the trail and caused the car to tip up to a side skidding angle. Several times we had to stop and jack up the rear by putting the jack under the middle of the axle, then tip it over and thus move the car upward and inward toward the rocks and away from the edge, toward which it tended to slide as soon as it was tilted off an even keel. Thus climbing along, we came to "Jaula," a giant rocky cliff jutting out into the river, about 100 feet below the trail at this point. A large notch had been cut into the rock where the trail wound sharply around the corner, and here we found our 106-inch wheel base, too much to allow us to round the point of the rock. As there was no room for backing and no protecting curb at the edge we again employed the jack and worked the rear end of the car around, inches at a time, and again had the satisfaction of contradicting the prophets. It really was a close call for us this time, however, as a long car could not have worked around the narrow corner in any possible way.

We were now well up into the Cordillera and began to realize how different is the mighty Andean chain from what most people suppose it to be. We had expected to climb up a long series of hills and coast down the other side. We had done this already, but that was only the beginning. "La Cordillera" now brings to my mind a succession of lofty, sloping gravel banks; boulders piled on boulders sky-high; deep gorges with roaring, milky-white streams cutting them rapidly deeper; great barren walls of rock split into irregular sections, with fine stones rattling out from between them; high, smooth slopes, dotted with big round boulders that have fallen down from higher ledges and seem to be waiting only for the slightest jar to start them rolling down, to carry away a section of the trail. I recall the constant rattling and pouring sound as sand and fine stone crumbled and ran down the slopes into the trail beside our car, and also remember the awesome feeling that filled me when we heard a roar, and a cloud of dust rose up far on the opposite mountain side and we saw tons of earth and stone drop and slide down several hundred feet and readjust itself to the sloping face of the mountain. The Cordillera is constantly changing, crumbling, sliding, filling in, and cutting away.

Soon we were toiling up the slopes of the Paramillo de Zanjón, and leaving the river valley far below us again. During this climb we were helped in some places

FIRST AUTOMOBILE TRIP OVER THE ANDES.

Upper: A dangerous curve in the road high up on the mountain side not far from Zanjón Amarillo station. Lower: "We were soon sliding down the beautifully graded zig-zags on the Chilean side, with a feeling of great exhilaration at being alive and so near the realisation of my dream."



FIRST AUTOMOBILE TRIP OVER THE ANDES.
Top: Approaching Vina del Mar, the famous Chilean seaside resort. Middle: In the environs of Valparaiso, the greatest of Chilean seaports. Bottom: Arriving in the outskirts of Santiago, the beautiful capital of Chile, where the daring motorists were welcomed with characteristic Chilean hospitality.



by the horses, and during one of these pulls one of them suddenly dropped dead, rolling on his rider. The boy was not injured by the fall nor by rolling down the mountain side several feet in his anxiety to get clear of his mount. On the top of the big, bald Paramillo we found a section of 100 yards of trail wiped out by an avalanche having filled it in. The recent passers-by had guided their mules along the outer edge of what had been the trail, and we tried to cross the smooth slanting surface by digging trenches for our wheels, but the angle was such that the rear wheels rode up out of the trenches and began to slide down sidewise. We then planted our bar far up above on the hillside and put a rope belt around the car at about the middle, hooking it onto our tackle, and thus suspended the car like a pendulum on the steep side of the mountain. Taking in as the car approached the point directly below the pivot point where the bar was planted, and then paying out, we kept a tension on the tackle and held the car from sliding sidewise down the mountain. At this point we were saluted by the whistle of the Trans-Andine International train and by its passengers waving their handkerchiefs at us from far down below in the deep valley. The train actually looked like a worm crawling along so far down below us.

Late that afternoon we were met by Mr. MacGregor, a fine young Scotchman, who had heard of our progress from the cable and railway agents at Punta de Vacas, and he had ridden out to welcome us and to help us past the dangerous Juan Pobre slide to which we came at dusk.

After their arrival at Punta de Vacas the going became much easier. They reached the hotel at the famous thermal springs of Puente del Inca, where their coming had been previously heralded and where they were royally entertained. From there they set out to pass over the crest of the old roadway, and to stop for a few moments to view the famed statue, the "Christ of the Andes." Passing the little iron post bearing the inscription "La Cumbre-Altura, 3,999 metros," they were soon sliding down the beautifully graded zigzags on the Chilean side. Another night was spent in the Andes, at Junca, and then, with but few minor mishaps, they finally arrived at Santiago, where they were wined and dined, feted, and lionized, and given such a hearty welcome that their modesty seems to have been almost overcome. After a couple of days of rest and a general overhauling of the car, they set out for Valparaiso, the great Chilean port on the Pacific, and at last were enabled to lay the flattering unction to their souls that they were the first men who had ever crossed the South American continent from Buenos Aires to Valparaiso in an automobile.



EASTERN PART OF THE DOMINICAN REPUBLIC¹

OUR visits to the eastern part of the Dominican Republic were undertaken for the purpose of collecting pre-Columbian archeological specimens for the Museum of the American Indian, Heye Foundation, of New York, and in order to gather data which might throw some light on the history of a forgotten and extinct race. A glance at the map of the Dominican Republic will show the town of Higuey, in the extreme eastern part of the island, and it was in the vicinity of this town, in what is known as the Macao district, that we centered our investigations.

The history of the Spanish conquest of the island is too well known to readers of the *BULLETIN* to require repetition. The conflict between the aborigines and the invading whites, marked by the merciless cruelty that characterizes all war, ended in the practical extinction of the native population. The turbulence of this period is in sharp contrast with the later history of the section. As far as scanty records show, the Higuey district, and in fact the entire Seybo Province, was settled by Spanish landholders some 30 years after the conquest of the island, and their lands were worked by imported African slaves. Their existence resembled that of the patriarchs of old—each hacienda was self-sustaining and produced practically everything needed for the well-being of the household. The landholder made one, perhaps two, trips a year to the capital city of Santo Domingo, there to pay the royal tribute to the viceroy for the use of the lands granted him by the Spanish Crown; he also bought such articles as were needed for his hacienda and his household. Outside of this he held practically no communication with the outer world, and one would imagine that his life, and that of his household, while somewhat dull, would be a happy one.

During the last half of the nineteenth century and the beginning of the twentieth, when the Dominican Republic was frequently in the throes of internal dissension, existence in the Higuey district continued its undisturbed way. It is a noteworthy fact that the inhabitants of these parts practically never took part in the disturbances and seem to have been content to live their peaceful lives, irrespective of who was president in the capital or which party was attempting to grasp the reins of government. The most probable

¹ By Theodoor de Booy, of the Museum of the American Indian, Heye Foundation.



SCENES IN THE EASTERN PART OF THE DOMINICAN REPUBLIC.

Top: A country scene near the settlement of El Salado, on the east coast of the Dominican Republic.
Middle: Camping in the virgin forest near El Salado, Dominican Republic. Bottom: Native shelters near Cape Barbara on the east coast of the Dominican Republic.

solution for this phenomenon is that, above all, the landowner of the eastern end of the country is conservative; he has enough to eat, a bountiful nature provides him with his entire needs and, in addition to this, he has no political aspirations. Furthermore, his isolated position as regards the outside world, due to a lack of good roads, tempted no revolutionary troops to raid this territory.

A trip to Higuey, which may be called the center of the district under discussion, is somewhat of an event. The traveler's best way is to disembark at the small village of La Romana. This village, which previously was naught but an abode of fishermen, has, of late years, since the erection of a large sugar estate by an American corporation, become a busy center for the surrounding country. Situated on a small river, the mouth of which serves to shelter the cargo vessels which call at this port for their loads of sugar cane to carry the latter to the Guanica Central in Porto Rico for grinding, La Romana presents a somewhat straggling appearance of three or four streets built along the river bank. Outside of the houses built for the employees of the sugar estate, La Romana can boast of but few handsome residences, nor has it any of the substantially built houses of the conquistador period to be proud of. It is likely, however, that in future days La Romana will become one of the important ports of the Republic, and if proper roads were built to the districts beyond its prosperity would be greatly increased.

One hires horses in La Romana for the trip to Higuey. If luck be with the traveler, he can make the trip in about 7 hours; if luck be against him, it takes him from 9 to 10 hours, and in the rainy season, when the road is bad, it may take him even longer. The traveler will not have left La Romana far behind before he notes a difference in the wayfarers he meets in the road. Instead of a studied indifference, everyone he meets has a cheery greeting for the stranger and wishes him a prosperous journey. Should rain overtake the traveler he has but to ride up to the first house or hut that he finds in his path and he may be assured of a shelter not only for himself but also for his horse, the inhabitants insisting that the horse also be brought in the house in order to prevent the saddle from getting wet. Nay, more—the mistress of the house will go out in the rain and prepare a delicious cup of native coffee for the wanderer.

After once leaving the fast fields of sugar cane of the La Romana estate behind, the road to Higuey leads mostly through enormous fields of guinea grass, in which large herds of horses and cattle can be seen grazing. Numerous patches of virgin forest intersperse the cultivated areas, and every once in a while one passes places where new clearings are being made.

At last one comes to Higuey. The first notice one has of the vicinity of this town are three large crosses, set up where the road

from La Romana joins the interior road from Seybo, previous to entering the town of Higuey. These crosses denote that one has arrived at the far-famed shrine of the Virgin of Alta Gracia, which shrine is found in the church of the town, an attraction to pious pilgrims from all parts of the Dominican Republic. The church of Higuey is visited by the suffering in order to derive benefit from vows performed in honor of the Virgin of Alta Gracia.

Higuey itself consists of perhaps 400 houses, built in a square formation around the plaza where the historic old church is found. It was our good fortune to meet the vicar of the parish, Padre Zanabia, in whose care the shrine is, and to learn from him many historical facts pertaining to the shrine and to the neighborhood of Higuey which were unavailable from other sources. A climate which seems to lend itself to the destruction of books and archives and a pestilential boring insect which centers its attacks upon the most precious of church records, are responsible for the fact that one has to depend upon local traditions for a great deal of the historical information regarding this region. And Padre Zanabia proved to be a veritable storehouse of information and a gold mine to the historical student. The history of the Virgin of Alta Gracia which it was our good fortune to place upon record in another publication might have been lost to posterity had it not been for the information derived from the village priest.

From Higuey east the roads of the district are but bridle tracks and at that impassable during the rainy season. But these conditions add to, rather than subtract from, the beauty of the scenes. At times riding through a dense virgin forest, where the sun has a hard time to penetrate the foliage, at other times riding over flat savannas where the green field offers a vivid contrast to the blue sky, the traveler has no reason to complain of a dull trip. Those he meets on the road—few, indeed, as the district is perhaps less settled than any other in the Dominican Republic—greet him as old friends and seem to be glad to see a stranger in their midst. Small cacao plantations are found here and there, and one is apt to see an enormous ox with large pendant alforias (native saddlebags made out of reeds), loaded down with two 150-pound bags of cacao beans, resting in the shadow of a gigantic ceiba tree. On all sides nature shows the evidence of her bounty, and one can not help but be convinced that proper exploitation of the land will result in the creation of a natural paradise.

At last the traveler will come to a large cacao plantation situated within a few miles of the sea. Here hospitality runs riot, and all is done to make the traveler comfortable and to make him speedily forget the hardships of his journey. The Anamuya River flows through the lands of the plantation and insures not only a constant water supply, but provides splendid swimming pools. And not



IN THE EASTERN PART OF THE DOMINICAN REPUBLIC.

Upper: The church at Higuey. "At last one comes to Higuey. The first notice one has of the vicinity of this town are three large crosses set up where the road from La Romana joins the interior road from Seybo, previous to entering the town of Higuey. These crosses denote that one has arrived at the far-famed shrine of the Virgin of Alta Gracia, which shrine is found in the church." Lower: The public well in La Romana. "This village, which previously was naught but an abode of fishermen, has of late years, since the erection of a large sugar mill by an American corporation, become a busy center for the surrounding country."

only are the external comforts of the traveler seen to, but the inner man is not forgotten. The owner of the plantation, "Gascogne and Champagne," Mr. F. Goussard, is a Frenchman who prides himself on his culinary achievements. The writer of this article will never forget the whole-hearted hospitality shown him by Mr. and Mrs. Goussard and remembers with great pleasure the happy days spent on their plantation.

This plantation may well be named the outpost of civilization in the Macao district. True, one does find small huts here and there to the eastward and to the south, but these are the homes of only the poorest type of agriculturists. The sea is but 2 miles distant, and, what is more, an excellent reef harbor is found at Cape Macao which cape gives its name to the district under discussion. Outside of a few clearings there is nothing but virgin forest between the Goussard plantation and Cape Macao. A road leads to the cape and an occasional coastwise schooner calls at the Macao reef harbor to collect the sacks of cacao beans from Mr. Goussard's plantation. It is a noteworthy fact that this harbor provides an excellent anchorage and ought to prove of decided advantage should the district ever be exploited. There are several openings in the reef which allow for the navigating of large vessels, and there is deep water inside the reef; the only disadvantage being a somewhat heavy swell which makes the landing of small boats difficult. This, however, could be overcome by the building of a proper pier.

From Cape Macao to the south, enormous riches await exploitation. Land here has, at the present time, practically little value; and yet, it is literally covered with mahogany trees, cedar trees, and many valuable hardwoods. They await the making of proper roads, the erection of proper machinery, and the calling of steamers to carry the shaped logs to over-seas markets. It is a curious fact that a floor made of boards hewn by hand out of mahogany logs costs less in the Macao district than a floor made of imported pine boards of the commonest quality. These lands rank as some of the most fertile in the Republic, and all that is needed is to clear them. With a proper amount of capital—and this is no proposition for the small investor, but can only be handled by a corporation with perhaps half a million dollars at its disposal—the clearing of the land would be more than paid for by the resulting trees. Nay, more; the profits derived from these should amply pay for the roads that would have to be built.

The writer accompanied Maj. D. Tenaille when the latter bought some land within a short distance of the El Salado settlement, which settlement is also in close proximity to Cape Macao. Maj. Tenaille, a friend whose memory will be long cherished, and who was, alas, almost one of the first officers of the Canadian troops killed in France,

and the writer, lived for three months on this land, and while the owner was clearing it with his gang of laborers the writer was exploring the surrounding country for archeological specimens. It was the idea of Maj. Tenaille to start a cattle ranch on the land he had bought, and in consequence it had to be cleared of all brush and trees previous to its being planted with guinea grass. Literally hundreds of monarchs of the forest fell a victim to the axmen's tools, and it seemed almost a crime to set fire to these trees afterwards and destroy them. It was only a matter of 2 miles to haul the logs to Cape Macao, but as there was no road this was out of the question, and even if a road had been built there were no steamers to call at Macao to transport the logs to a market. At first Maj. Tenaille and the writer lived in a tent, but after the felling of sufficient trees we built a log cabin, to the utter astonishment of the natives, who not only had never seen a log cabin, but had never even heard of one. We are of the opinion that this is, perhaps, the first log cabin built in the Tropics. What is more, it was perhaps the costliest cabin of its size in existence, as fully half of the logs used were mahogany and the balance consisted of logs of various hardwoods, such as satinwood, rosewood, etc. It proved to be an excellent abode and very cool.

The land once cleared, its rich earth would make it particularly suitable for cacao, sugar, or bananas, and the coastal fringe could be used for the cultivation of coconuts. There is perhaps no land throughout the West Indies that is so rich and that could be bought for so little. The climate is excellent, and the nights especially are very cool, so cool in fact that one frequently is forced to sleep under two blankets.

South of Cape Macao, along the coast and in the interior, there are perhaps half a dozen families in all. These make a scant living out of the starch they manufacture from the wild yucca, which is abundantly found here, and the sea provides them with their main food supply. The countryside also abounds in wild pigs, doves, wild guinea fowl, and pigeons, so that a lover of the chase will have ample opportunity to prove his skill.

The Dominican Government has lately erected a chain of lighthouses along the eastern coast of the Republic which will go far toward making navigation safe in these waters. In consequence shipmasters might, in the future, be induced to make the reef harbor of Macao a port of call if sufficient cargo were guaranteed to make this worth their while. It is to be hoped that the Government, at some time or other, will chart the Macao anchorage properly and buoy the entrances to the reef, and it will then be found that one of the greatest drawbacks to the development of this neglected part of the Dominican Republic will have been overcome.

PROMINENT IN PAN AMERICAN AFFAIRS

JOSÉ MARCELINO HURTADO, diplomat, statesman, and financier of Colombia, died in Italy on June 13, 1917, at the age of 91. At the time of his death he was envoy extraordinary and minister plenipotentiary at Rome. Sr. Hurtado was well known in the public life of his country. For a great many years he had served it in various high offices, both at home and abroad.

Born in London in 1826, his father was at that time minister of Greater Colombia. Hurtado was educated in the schools of London and Paris and then went to Panama. Here in conjunction with his brother they engaged in commercial enterprises. He was made national intendente of the then State of Panama and also was appointed a member of the international tribunal created by the Herran-Cass treaty for the settlement of certain claims. His ability as a jurist and his tact as a diplomatist won him favor and prominence.

Hurtado next went to Peru and at Lima established a fiscal agency for that Government and also organized another business enterprise on his own account.

In 1885 he was appointed envoy extraordinary and minister plenipotentiary of Colombia to the United States and in 1889 was a member of the Colombian delegation to the First Pan American Conference. While in the United States Hurtado rendered exceptional service and won the esteem of both countries. Later he was transferred as minister to Rome, where he has been ever since.

Hurtado is the author of several important diplomatic papers. Among the better known ones are Views on the Spanish Question, published in Peru in 1865; and Opinions on Dual Citizenship from an International Viewpoint. At the news of his death President Vicente Concha of Colombia issued a special decree in which he glowingly refers to the high diplomatic, social, and practical accomplishments of the late minister and reviews his many public services at home and abroad.

Dr. JUAN L. CUESTAS, the first minister of the Republic of Uruguay to the United States and erstwhile minister to Italy, died in Rome July 27, 1917. During many years of service in the diplomatic corps of his country, Dr. Cuestas had made his presence and personality strongly felt, and everywhere the news of his sudden death brought genuine sorrow. The United States, Mexico, Italy, Chile, and Switzer-

land each recall with pleasure and affection this cultured diplomat and his official labors.

Dr. Cuestas was the son of Juan L. Cuestas, former president of the Republic. Entering public life, he held numerous positions at home and won prominence by his ability, tact, learning, and influence. Born in Montevideo in 1868, he commenced his public career in the National Library of that city. While here he raised the standards and broadened the scope of that institution. At the same time, through his learning, culture, and literary attainments, he greatly enhanced its prestige. He soon became its Director, and in that capacity established the standing of the library for all times in academic circles.

From the library Dr. Cuestas next became (Jefe Politico) Governor of the Department of Florida. He also served as Secretary to the President and held a seat in the Chamber of Deputies.

Dr. Cuestas next turned from national service to international service. In June, 1900, he was appointed Minister Resident to the United States. His appointment was especially noteworthy and significant, as he was the first minister ever sent to the United States from Uruguay. Seven months later, on January 28, 1901, he again presented credentials, this time as Envoy Extraordinary and Minister Plenipotentiary to the United States, the Uruguayan Government having raised the rank of its legation in Washington. While at this post he was appointed by his country as delegate to the second Pan American Conference at Mexico City. From the United States Dr. Cuestas was transferred to other posts in Europe and South America. He served in Italy for several years, was assigned to Chile, and after a number of years was again returned to his old post at Rome, being also accredited to Switzerland.

The death of Dr. José ANTONIO GONZÁLEZ LANUZA brought to a close the life of one of Cuba's most illustrious sons. He was known for his unusual attainments and his lofty ideals. As a lawyer he held a prominent place. As an intellectual light he stood out conspicuously for his learning, depth, and cultural accomplishments. He was a scholar and a man of letters, and these qualities he commingled with his professional activities. Whether at the bar of justice, as member of the national congress, or in the University of Habana lecturing to the young students Dr. Lanuza was an inspiration. He was broad in his sympathies, kindly in his manner, and genial in his personal charm.

When he died the press of Cuba was unanimous in its expressions of grief and sorrow. It recognized the loss to the country of a distinguished citizen and faithful servant. Many and handsome were the tributes paid to his memory. Perhaps among the most impressive



JOSÉ MARCELINO HURTADO.



JUAN L. CUESTAS.



JOSÉ ANTONIO GONZÁLEZ LANUZA.



GEORGE WISHART CREIGHTON.

of these tributes were the simple yet dignified lines which appeared in a Habana weekly, *Actualidades*, from which we translate freely:

His death has aroused a universal feeling of grief throughout the entire country. It can be said, without fear of exaggeration, that Cuba as a land is in sorrow. With the death of Dr. Lanuza, there has passed away a great intellectual figure, a serene and tireless worker of deep thought, a man truly honorable and of high civic ideals.

The prestige which adorned the life of this illustrious Cuban equaled his inimitable modesty. Having reached the heights of learning and wisdom, ever a man of unimpeachable honor and integrity, his whole life was characterized by a charming simplicity and democracy, and his actions bespoke the great patriot that he was whether as professor in the university, as legislator in the National Chamber, as speaker in the Atheneum or academy, or as noted journalist or respected professional man.

Dr. Lanuza served his country in military as well as in civil life. He was speaker of the House of Representatives, and his powerful as well as eloquent gift of oratory won him leadership at all times. In the university he was one of the favorite lecturers and a leader in the academic circles of the country. He died on June 27.

GEORGE WISHART CREIGHTON, for nearly 40 years connected with the Pennsylvania Railroad, died in Philadelphia June 2, 1917. Mr. Creighton was known as a pioneer railroad man. He was one of that early group of courageous engineers who in 1878 became associated with the ill-fated expedition to Brazil to survey and construct the Madeira-Mamore Railroad. Mr. Creighton joined the P. & T. Collins Co. at that time and sailed with the party from Philadelphia on the *Mercedita*, said to be the first ship to sail to San Antonio, Brazil. During his experience with this famous South American line he served successively as chainman, rodman, level-man, transitman, topographer, and acting assistant engineer. He remained in these wild unsettled lands till late the following year, when he resigned and returned to the United States.

Mr. Creighton was the first president of the Madeira-Mamore Association, a body including in its membership the survivors of the expedition of 1878, as well as those who in later years resumed the work of this first band, and finally brought to completion this remarkable railroad over the Madeira rapids. He held the office of president until his death. In a volume entitled "Recollections of an Ill-Fated Expedition to the Headwaters of the Madeira River in Brazil," by Neville B. Craig, also a member of the ambitious expedition of 1879, frequent mention is made of Mr. Creighton, and the author pays several kindly tributes to his former associate.

Mr. Creighton was respected as one of the foremost operating men in the service. On his return to this country he entered the service of the Pennsylvania Railroad and through his wide experience and unusual ability won rapid promotions to responsible positions.

With the creation of the Eastern Pennsylvania Division on April 1, 1907, he was made general superintendent, which position he held at the time of his death.

Probably one of the widest known of all contemporaneous writers of Latin America is **RICARDO PALMA**. Known as the "grand old man" of Peruvian literature, he stands in the forefront of the men of letters writing in the Spanish language. Palma's easy and graceful style, as well as his rare and beautiful command of the Castilian tongue, have won for him a reputation of high standing throughout the Spanish-reading world and have gained a permanent place in South American literature for his works.

The venerable writer was born in Lima, Peru, about 85 years ago. At the age of 20 he completed his studies in law, but instead of pursuing that profession Palma turned to the navy and for seven years followed that branch of service. Withdrawing from the sea he spent the next three years, from 1860-1863, in Chile writing for the press of that country. Returning to Lima he remained a short period of time and then made an extended trip through Europe and the United States. On his return he was made Peruvian consul general to Brazil with residence in Para, but before long he was again at Lima serving as chief of various bureaus in the Government departments.

During the presidency of Col. Balta Palma represented the Department of Loreto as Senator through three sessions of the legislature and at the same time acted as private secretary to the Chief Executive. In 1873 he separated himself from all political activities and devoted himself to writing and literary pursuits. Under the administration of Gen. Iglesias he was commissioned to reorganize the National Library. This service he performed with great credit to himself and to his country and his work proved of inestimable value to the literary world.

Palma is a member of the Royal Spanish Academy of Language and of History, and was also largely instrumental in the establishment of the Peruvian Academy in 1887. In 1892 the Government conferred upon him the honor of representing Peru at the various congresses in Spain which were celebrating the 400th anniversary of the discovery of America. The universal appreciation and esteem which his fellow delegates had for him found eloquent expression at the inaugural session of the Congress of Americanists at Rabida when he was unanimously chosen by acclamation as the spokesman.

Among the notable literary contributions that are worthy of special mention are *Las Pasionarias* (The Passion Flowers), in 1870; *Verbos Gerundios*, in 1877; *Recuerdos de España* (Recollections of Spain), in 1897; and probably his most famous series, *Tradiciones Peruanas*.



RICARDO PALMA.



Photograph by Harris & Ewing.

JORGE E. ZALLES.



Photograph by Harris & Ewing.

JOHN H. WIGMORE.



PETER W. GOEBEL.

(Peruvian Traditions). These are written in a semihistorical style between pure romance and history, but with a scrupulous regard for the main facts as given in history.

Doubtless there are few if any persons who combine a more intimate knowledge of people and affairs of Bolivia and the United States than does Sr. DON JORGE E. ZALLES. Generally speaking, the average foreigner who makes one or two visits and sees a few leading cities and some of the States of the American Union forms his ideas and opinions of the whole country, many of which often prove erroneous.

Sr. Zalles first came to the United States from an official position in London in 1902, as chargé d'affaires of Bolivia at Washington. Later he served as consul general of his country at New York. Since that time he has made numerous visits and has viewed the many States and their activities from the Atlantic to the Pacific. Furthermore, his knowledge of his native land and her vast possibilities were gained largely from travels in the field. On a single journey, which lasted many weeks, Sr. Zalles traveled over mountains and through primeval forests on mule back for 1,700 miles—a wonderful experience—but very modestly recorded in an interesting little book from his pen. It was during this long and adventuresome trip, in which he led the engineers, that many miles of Bolivia's present railroads were located.

As general manager in Bolivia of the house of Grace & Co., and as president of the Bank of the Bolivian Nation, he has seen trade and traffic between Bolivia and the United States increase by leaps and bounds, and although still a young man he has won an enviable reputation in the world of affairs.

While lack of space permits of only a glance at the life and labors of this distinguished Bolivian citizen it can be truly said that he is a Pan American in the full meaning of the term. Intimate acquaintance with peoples, labors, ambitions, and achievements of the various nations of the Americas, as with those of Europe, mark the social and business activities of Sr. Zalles, and to this intimate knowledge he probably owes much of his success in the fields of commerce and finance.

At his temporary home on Riverside Drive in New York, within his spacious grounds and hospitable home in the city of La Paz, or amid the cares of business Sr. Zalles is a striking type of the newer Latin American whose activities are international.

In the appointment by President Wilson of Prof. JOHN H. WIGMORE and PETER W. GOEBEL as members of the United States section of the International High Commission, there have been added to that important body two men of ability and prominence. Messrs. Wig-

more and Goebel will succeed to the places on the commission made vacant through the resignation of Elbert H. Gary and Archibald Kains.

Mr. Wigmore, who is dean of the faculty of law of Northwestern University, is an active member of the Conference of Commissioners on Uniform State Laws, and Mr. Goebel, one of the country's most successful bankers, is president of the American Bankers' Association. The selection of these two gentlemen emphasizes two important fields of work of the High Commission, viz, the promotion of greater uniformity in the theory and practice of commercial law in all the American Republics and the encouragement of more uniform methods of fiscal administration. It is thus confidently expected that closer cooperation will result between the International High Commission and the two distinguished institutions represented by the new appointees.

Mr. Wigmore, after practicing law for a few years in Boston, was named professor of Anglo-American law at Keio University, Tokyo, Japan, from 1889-1892. He has been professor of law, and, since 1901, dean of the faculty of law of Northwestern University. His contributions to legal thought have covered a wide range of topics. He has devoted special attention to the field of comparative jurisprudence, and is thus particularly well fitted to advise the central executive council in this aspect of its work. Mr. Wigmore is temporarily attached, with the rank of major, to the Adjutant General's Office of the War Department.

Mr. Goebel has long been associated with progressive movements in Kansas City, Kans. His experience in domestic and foreign banking makes him especially suitable for membership on the commission which has on its program several important problems of international finance. Not only his wide range of experience but also the importance of the great organization of which he is president gives ample assurance that he will contribute notably to the success of the commission's work and thus promote the work of Pan American solidarity along practical lines.



PAN AMERICA IN THE MAGAZINES :: :: ::

Nature and Man in Eastern Para, Brazil, is the title of an interesting sketch in the July number of *The Geographical Review* (New York), contributed by Emilie Snethlage, directress of the zoological section of the Museu Goeldi of Para. In her introductory paragraph the author explains why some of the largest expanses of unknown territory in Brazil are to be found in the middle and lower sections of the Amazon Basin, and also makes reference to the principal scientific explorations that have thrown more or less light on regions adjacent to the larger affluents of the Amazon. This is followed by a description of the general topographical features of the country east of Para, traversed by the Para-Bragança Railway, but perhaps the most interesting part of the narrative is that which deals with the mission founded by the Franciscan monks and the nuns of the Order of Santa Clara, and the characteristics, mode of living, etc., of the Tembé Indians. The salient features of the story will be found in the following excerpts:

I wish, however, to introduce the reader to the typical virgin forest, and so we leave the train at Igarape-assu and turn southward to the watershed between the coast rivers and the affluents of the Grama, whose headwaters intermingle in a very complicated and curious way. About 12 miles to the south, at the confluence of the Maracaná, one of the more considerable coast rivers, and the Rio do Prata (which is not to be found on any map), an Indian mission was founded some 20 years ago by devoted and hardworking Franciscan monks and nuns of the order of Santa Clara. The tribe whose conversion was to be undertaken is a branch of the Tembé Indians, who though remote from the settlements of white men had lived in quite good relations with them for some generations, as their semibarbarian kinsmen in the Capim and Guama districts do even to this day. The mission, however, soon also became the center of a considerable colony of Cearences, inhabitants of the State of Ceará, who had fled from that terrible scourge the secca, or drought, so impressively described by Herbert H. Smith. The mission and colony of São Antonio do Prata, as it is called, presents quite an agreeable aspect, with its little church in the Italian style (the monks are most of them Italians, while the nuns are all of Brazilian descent), its stately convent, and the attractive building which the monks constructed for themselves only a few years ago. The erection of the buildings is in fact all their own work, as is the laying out of the fields and the cultivation of many of the plantations and orchards. In recent years the mission, like all enterprises in Amazonia, has suffered considerably from the rubber crisis, though the Government subsidizes the institution and does its best to help the devoted monks to get on with their useful educational work. The mission now serves partly as an orphanage; more than 60 children are being educated there, the number having been much larger formerly.

When I first came to Prata, 10 years ago, the nuns' house had only just been finished. Services were held in one of its rooms, and the monks lived with their pupils in rather primitive sheds. Large and beautifully kept plantations surrounded the place on all



Courtesy of the Geographical Review, New York.

NATURE AND MAN IN EASTERN PARÁ, BRAZIL.

Upper picture: The mission of São Antônio do Prata in the State of Pará, founded about 20 years ago by Franciscan monks and the nuns of the order of Santa Clara. Lower picture: The home of a half-breed Indian near the mission of São Antônio do Prata.

sides, and there was a hopeful and prosperous look about everything. Now the new and stately buildings of the church and monastery rise from the middle of the capoéira, the former plantations having long since been abandoned. Yet, on close examination, the case of São Antonio do Prata is not at all hopeless, and I trust it may prove to be a first instance of the better future that awaits the Amazonian region when the crisis has passed. Following the newly laid out roads, lined in part with beautiful, shady mango trees, we come, after a quarter or half hour's walk, to the new plantations, and find that, beside the old inhabitants, a number of new agricultural colonists have settled there, each having built his barraca in the middle of a large, newly planted roça. Rice, Indian corn, sugar cane, beans, etc., are producing rich crops which are brought to market by a small field railway, constructed by the monks, now run as a branch of the Estrada de Ferro de Bragança. The virgin forest which some years ago still surrounded the place quite closely has now retreated a good deal. To the northwest, where the *igapó* of the Rio do Prata and the hills of the watershed make farming impossible, the forest may be reached in a 20-minute walk, and from there it stretches away almost indefinitely, covering hills and valleys with its deep green shade. Wandering, as we safely may, thanks to the compass we have with us, the whole day long under its leafy vault, we are impressed anew with wonder at the enormous expanse of the Amazon forest. Weeks and months may be spent in this same interminable woodland, on the banks of the Tocantins, and in the region between the Xingu and the Madeira, from which its green waves still sweep on to the west, surging up and covering the first chains of the Andes, only to be stopped by the bleak winds of the paramo.

As for scenery, the cultivated land and even the capoéira have their beauty, too, especially as they are generally intersected with remains of the high forest and lovely little valleys, abounding in palms and traversed by clear brooks. The picturesque barracas of the colonists or the indigenous Tembés are hidden under large-leaved bananas, and the crimson flowers of the beautiful hibiscus, which the caboclos like to plant in their little gardens, inject a vivid element into the flood of green which is the characteristic of the virgin forest as well as of the capoeira and the plantations.

But perhaps its loveliest sights the Amazonian forest reserves to the canoe traveler in the upper courses of the small coastal rivers or of the Guama affluents. All the showy plants which to the inhabitant of temperate climates appear as the incarnation of tropical beauty and exuberance are crowded together here. They receive just enough light to force them to arrange their foliage to the greatest advantage—which, at the same time, means greatest perfection of outward appearance, as almost always in nature. There are delicate ferns and large-leaved aroids, spreading their brilliant green shields around the overhanging stems in the most artistic manner possible. Palms lift their graceful heads on slender stems or curve over the brown-golden waters, their feathery crowns forming the centerpiece of a bewitching picture, set off by the tangled mass of vegetation behind. Every bend of the river (and its bends are innumerable) discloses a new view of ever like yet ever changing beauty. Animal life, apart from the tiny or noiseless creatures that escape the eye of the nonzoologist, is not so abundant near the river banks as is the vegetation. Kingfishers of different species, noisy and showy birds, play the most conspicuous part. Flocks of parrots and parakeets settle screaming on the top of some fruit-bearing tree, and occasionally a hummingbird darts rapidly from shore to shore. The gorgeous *Topaza pella* is not at all infrequent on the Maracanã and its affluents, though it rarely appears in the full glory of its glittering array of golden green, purple, and ruby, these colors only flashing out under special conditions of light and shade. Occasionally a band of capuchin monkeys may be heard chattering in the distance, or the pretty little squirrel-monkey skips along the treetops bordering the banks. Sloths are to be met with, too, climbing or feeding lazily among the leaves. But nearly all the larger inhabitants of the woods, the anta (tapir), the wild hogs, the larger felines, etc., have disappeared long ago or become extremely shy and rare.



VIEW OF THE BOTANICAL GARDEN, MUSEU GOELDI, PARÁ, BRAZIL.

Hundreds of fine specimens of the varied flora of the tropical regions of Brazil are to be found in the collections of the Museu Goeldi at Pará where plants and trees thrive in the greatest luxuriance.



THE AVIARY AT THE MUSEU GOELDI, PARÁ.

In the zoological department of the Museu Goeldi may be seen the finest collections of birds and mammals of the Amazon region of Brazil that are to be found in the world.

When the mission was founded, the region between the headwaters of the Maracaná and its affluents, the Rio do Prata and the Rio Jeju, was inhabited by Indians of the Tembé Tribe, and to them in that time the work of the mission was exclusively addressed. The monks and nuns soon won the confidence of the peaceful Indians, and nearly all the principal people among them sent their children to be educated at Prata. I have often been struck, not only in this case but in others, with the response which the temperament of the Indian makes to the monotonous regularity, combined with the brilliant outward show, of Catholic religious life in such places as these. The children apparently enjoy the ever-repeated walks to church for prayer and the glorious spectacle of the mass. The altar, covered with costly embroidered linens, decked with artificial flowers and shining images and vessels, never fails to impress them. However, the children's life in the monastery is not wholly taken up by religious practices. After the regular school work, which occupies the morning, the girls are taught all sorts of house and needle work. Under the guidance of specially trained nuns they provide for the gallinheiros (poultry yard) and the garden, where beans, Indian corn, sugarcane, and batatas are grown. Thus their education is many sided and practical.

It is the same with the boys. Under the monks' supervision they till the land and plant it, bring in the harvest, and help to prepare it for home consumption and market. The planting of rice—wholly neglected in Amazonia for a long period, as were most of the other purely agricultural practices, in consequence of the more profitable rubber gathering—has again been taken up here in Prata. The first modern machines for thrashing and cleaning the grain were set up and worked, and thus a wholesome impulse was imparted to the whole country around. Cattle were introduced and thrived much better than in most other places, apart from the campos. The work of the religiosos do Prata has proved really advantageous to the whole region and it is to be hoped that the relatively insignificant means for its successful continuance may always be forthcoming.

There are still a number of full-blooded or nearly unmixed Teumbés living near Prata, their center being now the headwaters of the little Rio Jeju, an affluent of the upper Maracaná. In 1905, on the occasion of my first stay at Prata, I was formally invited to visit the tushaua's maloca, which was to be reached only after many hours' walk through woods and swamps with the help of a guide. These half-civilized Indians still cling to the thoroughly Amazonian custom of hiding the approach to their houses in a most elaborate manner by making the footpaths nearly invisible (at least to the non-Indian eye) by introducing unexpected turnings just at the least conspicuous part of the road, and sometimes even by inserting a gap of forest, so that the exit may be found only by the initiated. The tushaua, Capitão Joaquim Braz, received me cordially. His spacious maloca was thatched with palm straw, and the walls of the one perfectly closed room in the otherwise open building consisted of the same material. Farinha making was just going on and I was shown the process. The manioc root is first soaked in running water in a special recess of the little brook near the house, then peeled and triturated on a special instrument, the ralador. The yellowish mass resulting from this is then put into a tipiti, a long, tightly plaited basket of palm fibers, which is slung to a beam of the roof and stretched to its utmost possibility by a stone suspended on its free end. The pressure thus produced draws out the poisonous juice still contained in the mass and helps to dry it. Several hours' roasting over a slow fire in a large metal basin with continual stirring completes the process, whose final product is the white or yellowish farinha d'água, the principal and most necessary food of the Paraense, be he Indian or Brazilian. Standing for hours near the fire roasting farinha is no easy work in this hot climate. No wonder that the Tembé, though long accustomed to clothing, throws off every dispensable garment on this occasion—as on many others.



Courtesy of the Zoological Bulletin, New York.

THE SITE, IN PARÁ, BRAZIL, UPON WHICH HENRY W. BATES, THE GREAT ENGLISH NATURALIST, PITCHED HIS CAMP NEARLY 70 YEARS AGO.



Courtesy of the Zoological Bulletin, New York.

A VIEW OF A SECTION OF THE ZOOLOGICAL GARDENS MAINTAINED IN CONNECTION WITH THE MUSEU GOELDI AT PARÁ, BRAZIL.



Courtesy of the Zoological Bulletin, New York.

DR. EMILIE SNETHLAGE, DIRECTOR OF THE MUSEU GOELDI AT PARÁ, BRAZIL.



Courtesy of the Zoological Bulletin, New York.

PRINCIPAL BUILDING OF THE MUSEU GOELDI, THE HOME OF A FINE COLLECTION OF THE FLORA AND FAUNA OF THE AMAZON BASIN OF BRAZIL.

In recent times, and principally through the influence and example of the monks, many other cereals and vegetables have been introduced, especially rice and feijão (beans). To the original Tembé, who is now fast disappearing, however, the manioc field was and is the chief resource, and so it never is far from his palm-straw hut. There is a marked difference, characteristic of the racial temperament, between the surroundings of the indigenous Indian hut and of that of the Cearense colonist. The latter likes to build his house in an open place, right in the middle of his roça, or in front of it, beside the road. The Indian, however, prefers to have it in the woods, making his roça at some distance, even on the opposite shore if he lives on a river bank. Part of the roça is nearly always planted with iniam, batata doce (sweet potato), macacheira, and other indigenous roots; and some Indian corn and sugar-cane as a rule are cultivated, the latter being pressed in a rather primitive machine, with the help of a large wooden wheel, and the juice turned to garapa. Bananas are scarcely ever lacking, but they are generally planted in the vicinity of the huts. They are, to my mind, among the greatest beautifiers of the tropical landscape and, with the dense crowns of the pupunha palms (*Guilielma speciosa*), whose orange-colored fruits are likewise edible, the large acanthus-shaped leaves of the mamão tree (*Carica papaya*), and the featherly palms (*Euterpe oleracea*) near the brooklet in the background, help to make a charming picture of many an Indian home. There is besides the beautiful miriti palm (*Mauritis flexuosa*), whose enormous, fan-shaped leaves overhang the washing place where the good Indian housewife cleans the family linen, in rather primitive fashion, to be sure, leaving the brunt of the work to the bleaching power of the sun.

* * * * *

Hunting still furnishes the Tembé part of his animal food. Though the tapir has become very rare in these parts and the two species of peccary are disappearing, many a veado (roe) still comes in the hunter's way, and harelike cutias (agutis) abound, while the rarer pacas and tatus (armadills) form a more delicate article of fare. Even the sloth is not at all disdained by the indigenous. Fishing gives good results in many of the small rivers and is still largely practiced by means of the Indian caçuri. Most of the river fishes like to enter the smallest affluents, the igarapes, at high water. These affluents are then shut off from the main river by a deeply implanted wooden fence that can not be passed by the returning fish, which are caught by the Indians when they want them. Small and rather shallow dugouts are used by the Tembes. They are of a more elaborate and elegant make than the ubas of the more western rivers, being pointed at each end, and they contrast favorably with the heavy and clumsy boats of the colonists. The rivers being shallow during the greater part of the year, these boats are generally pushed forward by means of the vara, a long pole, while a large paddle is used for piloting. Paddles, however, are used at high water and in winter. They are rather short, but long bladed, as compared with the rudder and with the small round-bladed paddles used on the Amazon.

Of the domestic animals kept by the Tembés, a peculiar race of lean, short-haired dogs deserve to be mentioned first, as they are extremely noisy and sure to give the first welcome, most often in a rather hostile manner, to any stranger approaching the maloca. Then there are fowls and ducks and turkeys and pigs, bred from time out of mind; that is, before mission was founded and time acquired a meaning for these children of the forest.

Clothing, too, was already known to these Indians when the monks appeared, and the national tanga and the pretty feather ornaments had already vanished. Instead of the bow and arrow the musquetão, a muzzle-loader, was in vogue (incidentally that antiquated weapon is still beloved and preferred to the modern rifle by many a caboclo of the interior), and the Iron Age, with its tercado (large wooden knife) and machado (ax) had already succeeded the Stone Age. I do not know whether pottery ever has played an important part in the lives of these Indians, as it has with many of

the tribes living on the larger rivers, where clay is abundant. The vessel of indigenous manufacture most largely in use at present is the cuya, made in all sizes and sorts—large ones from the shell of the cujero fruit, small ones from several sorts of gourds. Baskets and mats also are remains of indigenous handicraft, and many of the hammocks are even to-day of the old Indian make, knitted from palm fibers.

The Tembé language is still spoken by most of the adult Indians and by some of the younger generation, too, but it is disappearing. It is a dialect of the widely spread Tupy-Guarany, from which the lingua geral is derived. Though it is but natural that the ethnographer's attention to-day is chiefly concentrated on the fast-vanishing tribes in a completely wild state, it seems a pity that these semicivilized tribes are not more intimately studied.

Summer Schools in the United States is the title of an article which appeared in the Spanish edition of the **BULLETIN** recently, and since it briefly summarizes the chief features of this distinctively American development in modern educational systems, tracing its history and growth, explaining the varied forms of the typical summer schools, etc., the English version of the story is herewith reproduced:

An interesting as well as important development of the educational system of the United States is the summer school. This branch of the educational scheme is now firmly established in the principal colleges, universities, normal schools, and private institutions of learning, and constitutes a substantial element in the school system of the country. The summer school is a product of the last 40 years. The extent of its recent extraordinary growth can be judged best by a study of the figures for two years, 1900 and 1916. In the former period there were altogether 124 summer schools with an enrolled attendance of 28,708; in 1916, the number of schools had increased nearly sixfold, 734, to be exact, and the enrollment reached the grand total of 298,219, or over 10 times the former number. Further emphasizing this increase in popularity and service of the summer school is the fact that there were 56,408 more students enrolled in the sessions of 1916 than in 1915. Thus the present yearly increase alone is greater than was the total attendance 15 years ago.

The multiplicity of purposes which have found expression in this large number of summer schools makes it somewhat difficult to classify them. One educational authority, in a report prepared for the United States Bureau of Education, divides them into the following classes according to the phases of education which they particularly emphasize: (1) Schools that teach special branches of knowledge as ancient and modern languages, literature, psychology, natural sciences, law, medicine; (2) schools of arts, as drawing, industrial art, music, oratory, etc.; (3) professional, normal, or schools of methods where the training of teachers is the main idea—summer schools of pedagogy; (4) general, where all or nearly all subjects in the general curriculum of education are treated; (5) Chautauqua, where the idea

TYPICAL GROUP SCENES AT THE NEW YORK CHAUTAUQUA.
The importance and popularity of the Chautauqua as a summer school can well be judged from the thousands of men and women from all parts of the country who come here during the summer months for study and recreation. The vast auditorium is very frequently filled to overflowing when some noted speaker or otherwise famous man is scheduled to speak. In conjunction with the Chautauqua classes conducted for the older people, other classes and forms of entertainment are provided for children. These pictures were taken at the mother Chautauqua of New York, the founder, the largest, and the most influential of the Chautauquas throughout the United States.

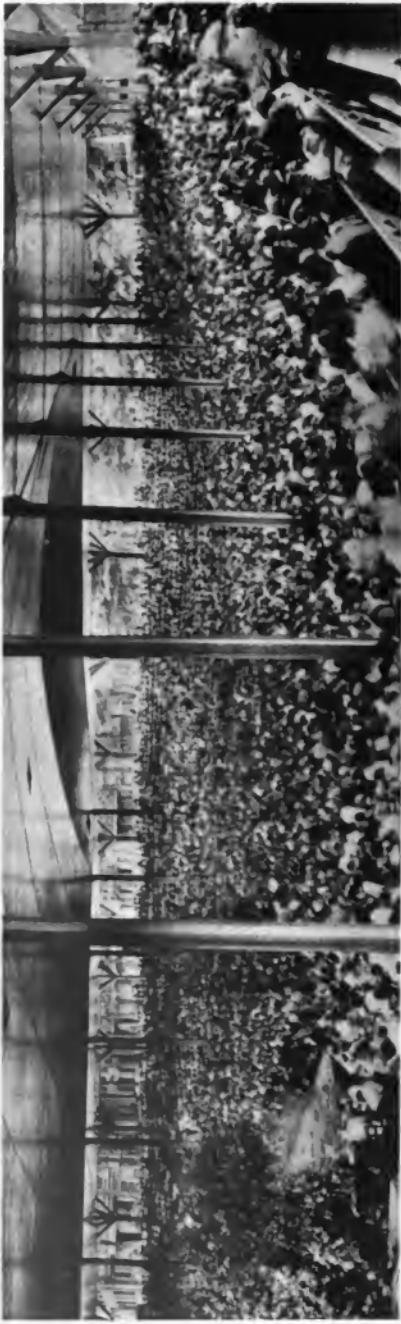




Photo by Ed. Tangen.

THE CLASSIC DRAMA AT THE CHAUTAUQUA OF BOULDER, COLO.

Art, music, and the drama receive due attention in the summer schools, and the attractive open-air facilities of many institutions lend themselves admirably to the production of highly artistic entertainments. The above illustration was taken on the Chautauqua grounds at Boulder, Colo., and represents the cast of a group interested in the study of the classic drama.

of study is united with that of rest and recreation. Since this classification was suggested, another type of school has gained a foothold in the public school system—namely, the vacation school. These are in the elementary and high school departments for children who have failed in some subjects or for those who desire to shorten the period of the public school requirements. Incidentally it might be stated that the vacation school is probably a step toward the all-year school.

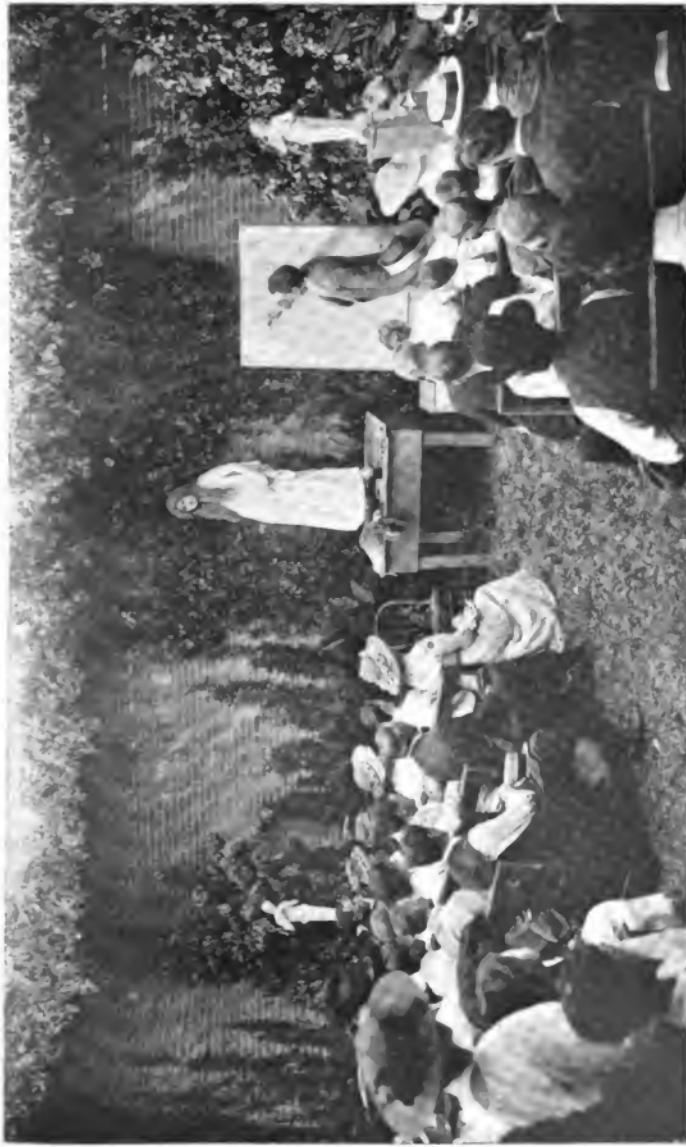
Considering in detail the various classes in the first classification we find the specialized schools which aim at preparation for definite professional or specialized occupations. This group includes the schools of law, medicine, theology, library training, and other lines of particular interest. Under this head there is also another form of specialized school, the summer school for research. These are not, strictly speaking, "summer schools," but rather the extension of university work into the vacation period and a continuation of the study or investigation in the special subject of interest.

Still another type are the "schools" of philosophy and ethics composed of groups of thinkers. These appeal exclusively to people of education and a certain degree of reflective power. The religious and biblical conferences also fall into the specialized classification. They attract large numbers of ministers, missionary workers, and biblical students. At some of these schools, a popular program and other recreative features have been introduced, and in some of them industrial and technical schools have been added for the young people.

In the second grouping (schools of art, music, expression, oratory, and dramatics) well-known artists, musicians, and teachers of elocution gather about them their pupils and give informal lectures as well as criticize their studies. Occasionally the work is conducted in city studios, but usually these summer sessions are held at attractive places in the country. To these schools come many teachers of these subjects who seek contact with leaders in their own professions.

Group three (schools of pedagogy) calls for a special classification, because an overwhelming majority of summer students is recruited from the teaching profession. While teachers are resorting in increasing numbers to schools of the general or academic class, a large number of them are still found in schools which aim at a special professional training, and lay stress upon educational psychology, teaching methods, and other disciplines which bear directly upon school work, and which fulfill the requirements for certificates and professional promotion. The large summer normal schools appear naturally in this class.

Group four (the general or academic class) is, of course, that which includes the summer work of colleges and universities. These offer



DEMOCRATIZING ART IN MINNESOTA.

Courtesy of the Minnesota Star.

A unique feature of the annual State Fair in Minnesota is an exhibition of fine arts combined with which is a novel idea. The thought came to those in charge of the exhibition that the general public, the farmers, merchants, artisans, professional men, and their wives and children, who cared enough for the beautiful things in life to spend some of their time in the galleries to look upon the paintings and sculptures displayed, should be instructed in the rudiments of these arts in order to secure a better understanding of what they saw. The above illustration shows how the idea was carried out. An out-of-doors gallery was improvised, and there, several times daily, a prominent artist (the director of the Milwaukee Art Institute) gave free lectures and simple explanations and instructions dealing with painting and sculpture. After each lecture he conducted his interested audience through the exhibition galleries and explained the artistic features of the principal pictures and other works of art. The popularity of this innovation is attested by the fact that 65,000 persons visited the galleries in a single day.

a wide range of college and secondary subjects and likewise appeal to teachers who are desirous of increasing their knowledge of certain subjects while at the same time aiming at general culture. During the summer of 1916, 63 universities and 62 colleges maintained either special summer schools during part of the vacation period or carried on a summer session lasting throughout the summer months. The schools are generally confined to the undergraduate and graduate work in the arts and science departments. They serve two main purposes. They enable teachers in elementary and secondary schools to pursue special courses of study for professional advancement, and they offer opportunities to college or university students who have failed to complete all the work required in the regular term to make good these deficiencies. In addition these sessions are to some extent patronized by other classes of persons. Courses are given in most of the subjects ordinarily offered by the institution during the regular winter terms.

This type of summer school presents special attractions to the foreign student. If he happens to arrive in the United States in June or early July he may profitably use his time and prepare himself for his later regular matriculation by enrolling in a good summer school. Opportunities for the study of English are commonly offered. After he has begun his collegiate or professional course he may shorten the period of study and also learn something of different universities by frequenting summer schools.

The fifth and last group of the classification (the Chautauqua) is undoubtedly the most popular and best known type of the summer school. In the United States the name "Chautauqua" stands for a place, an institution, and an idea. This type of educational assembly, which convened for the first time in 1874 at Lake Chautauqua, in New York, with the primary idea of promoting higher and better Sunday school work, has developed into a liberal educational center. After more than 40 years' experience, it still remains the most democratic and largely attended summer school. The Chautauqua is a school for musical and social economic training—a camp meeting for culture and religion.

The original Chautauqua is a summer town on Lake Chautauqua in southwestern New York. It is an attractive educational summer resort during the months of July and August, when several thousand people from all parts of the country gather at this academic village to enjoy a period of cultural and spiritual enlightenment, as well as the recreative opportunities afforded by this delightfully situated institution. The character of the educational work accomplished by the Chautauqua can be judged from the statement that the most noted lecturers, scholars, professors, and educators, eminent public men, high national and international officials, well-known reformers,



Photo by Ed. Tangeo.

A SUMMER SCHOOL GROUP ON A MOUNTAIN CLIMB IN COLORADO.

For nature study and work in geology the summer schools present unusual opportunities. The favorable weather conditions permit the students to make long expeditions and to pitch camps in the open.

and even those temporarily in the public eye because of some distinguished service or achievement, are among the speakers at the assemblies, and many a speaker has faced an audience of nearly 10,000 at a Chautauqua gathering. The scope of work, furthermore, has broadened from merely biblical studies to embrace the greatest variety of subjects, and special departments or "schools" are maintained in the following branches: (1) Schools of English language and literature; (2) of modern languages; (3) of classical languages; (4) of mathematics and science; (5) of social sciences; (6) of pedagogy; (7) of religious teaching; (8) of music; (9) of fine arts; (10) of expression; (11) of physical education; (12) of domestic science; (13) of practical arts.

There are now scattered throughout the United States and Canada more than 300 so-called Chautauquas. They are federated with the parent Chautauqua only in filial ways, like Greek colonies to the metropolis. Not all Chautauquas embody the complete system of academic summer work that characterizes the original plan, but the average assembly emphasizes one or two features and lays chief stress upon concerts, readings, and entertainments.

The other type of summer school, developed since the previously mentioned classification was suggested, consists of summer sessions of the public elementary and high schools. These are spreading rapidly throughout the United States and are probably the beginnings of the movement for all-year schools. In some the sessions are for review, so that pupils who have failed of promotion may regain the lost grade; in others the classes are so conducted as to allow pupils to gain a grade. In 75 cities the summer sessions of the high school are open to all pupils; in 34 other cities only those who have failed may attend, or exceptionally bright pupils are permitted to do extra work for advanced credits in the fall.

These summer schools, unlike the colleges or universities, are devoid of traditions. The time is well occupied by eager students who do not need the supervision and authority of a board of government. The methods remind one of the original university as it existed in the time of Abelard. There are rules, but they affect only the convenience and the more ready acquirement of knowledge on the part of students and teachers alike. Instructors are themselves also pupils, and this is wise, for in reality true education never ends. Adults are quite as much in evidence as young people. Many executive minds, not elsewhere regularly utilized as educators, here are made available for splendid work.

Thus the summer school has become an established feature of the educational system, and has enlarged and enriched the sphere of education. Its effect upon those who attend is happily summed up in the words of a prominent educator, who says: "The change of



THE PRACTICAL AND PICTURESQUE SIDES OF SUMMER SCHOOLS.

Especially interesting are the summer schools that are located in the country and are arranged to afford students practical instruction amid beautiful surroundings. Such schools, usually in the form of camps, are privately conducted, and cater to the younger men and women who need extra preparation for college entrance and wish to continue their regular school work through the summer. The top picture shows a group of students during a study hour; the center, the students gathered around a camp fire at night; and the bottom view represents a class in manual training and automobile repair work.

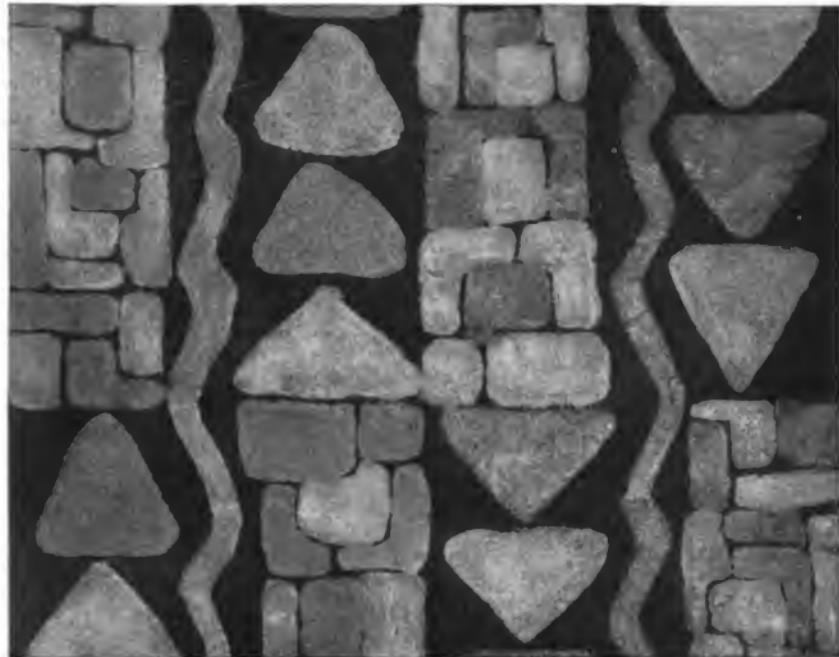
surroundings and occupation, the stimulus of cheerful companions interested in the same subjects, and the many provisions of our best summer schools for healthful recreation, are better preparation for hard work for the next year than a vacation spent in idleness."

Creative Textile Art and The American Museum is the title under which Mr. M. D. C. Crawford contributes an interesting article in a recent number of *The American Museum Journal*. The connection between the anthropological collections of a natural history museum and the development of original textile art is certainly not very apparent to one who has never investigated the matter of designing original patterns for artistically woven cloth. That there is such connection and that it has been productive of some very gratifying results during the last two or three years is made plain by Mr. Crawford. Especially in the manufacture of high grade silk goods has the effect of studying the designs of aboriginal Americans been manifested. The silk industry of the United States has made remarkable strides during the past 25 or 30 years. The production of the industry is now valued at \$500,000,000 a year. According to Mr. Crawford, 97 per cent of the silks worn by the women of the United States are woven in the country itself, and in their production more raw silk is used than in all the countries of Europe combined. After giving these striking facts in connection with the weaving of silk in the country, the author continues:

Inspiring as these statements are for our industrial development, however, it must be said that the decorative ideas have been almost always foreign in origin. We looked to Europe for almost every suggestion of style in fabrics and in garments, until the necessity of the last two years compelled us to exert our own originality. The textile art was very much neglected in this country and, while it is unjust to the few men of original ideas, who did not wait for the spur of necessity, to say that there was no creation in America previous to the war, yet the statement requires only this qualification to be accurate.

This great industry during the past year has made extensive use of the American Museum collections. The cotton manufacturers are following this example, and before many weeks are past, this industry also will be indebted to the American Museum for decorative schemes. In New York City, besides the textile interests, there is an enormous investment of capital in the garment business. The number of employees runs into the hundreds of thousands, and this is easily the best-paid labor in the world. The volume of business in ready-to-wear garments that leaves Greater New York yearly runs close to the half billion mark—and this industry also is turning to the American Museum collections for artistic inspiration. But the silk men came first. Nor is the reason for this far to seek, since silk is a luxury and requires a continual succession of new and beautiful ideas in order to induce people to buy it.

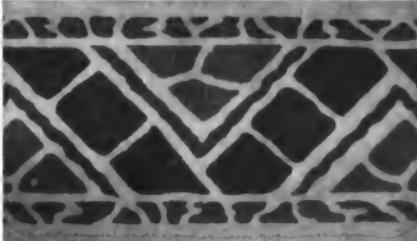
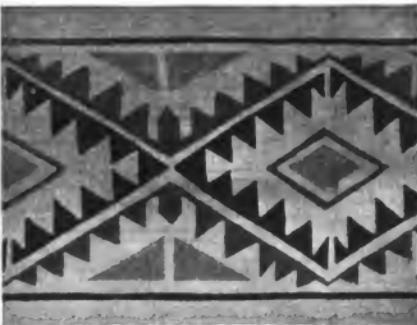
While it is unquestionably true that the great collections of primitive American art have largely affected the present styles (and no one can be indifferent to the significance of the tardy appreciation of this wonderful material), yet the other great collections, such as the Chinese, Koryak, Philippine, and South Sea Island, have also been of great interest. Fashion seems to require almost constant change, and it may well be that the designers will at different times emphasize different collections in the Museum. But the addition to our decorative arts of the inspirational wealth of



Courtesy of The American Museum Journals.

DESIGNS FOR SILK PATTERNS BASED ON ABORIGINAL AMERICAN ART.

Top: This design, which won the second prize in a recent contest, was suggested by the Indian collections in the American Museum of Natural History, and was the first textile design ever made by the artist. Bottom: These three designs were all taken directly from specimens in the American Museum, and are being displayed in certain beautiful silks produced by a noted manufacturer of the United States. The figure at the left is taken from a Peruvian poncho design, that in the middle from a Mexican terra cotta stamp, and the one on the right from a Peruvian cylinder roller.



Courtesy of The American Museum Journal.

ARTISTIC DESIGNS USED IN AMERICAN SILKS.

The two upper designs at the left were taken from Aztec shields in the collections of the American Museum of Natural History. The third from the top, at the left, is a Mexican design signifying "sand and water." Of the designs at the right, basketry and pottery motifs from the Indians of the southwestern section of the United States inspired the two uppermost, while the third from the top was suggested by the Museum's Amur River collection. Of the three bottom panels the two outer, representing bird and conventionalized fish designs were inspired by Peruvian textiles in the Museum's collection, while the middle design of conventionalized birds was taken from the Peruvian, Amur River, and Koryak collections.

aboriginal American design will be of permanent value. We shall turn to it again and again, each time with added skill and appreciation. These records are so intimately, so unquestionably our own, that they will serve as a basis for our distinctive decorative arts, and will lend a virile character to all our future creative work.

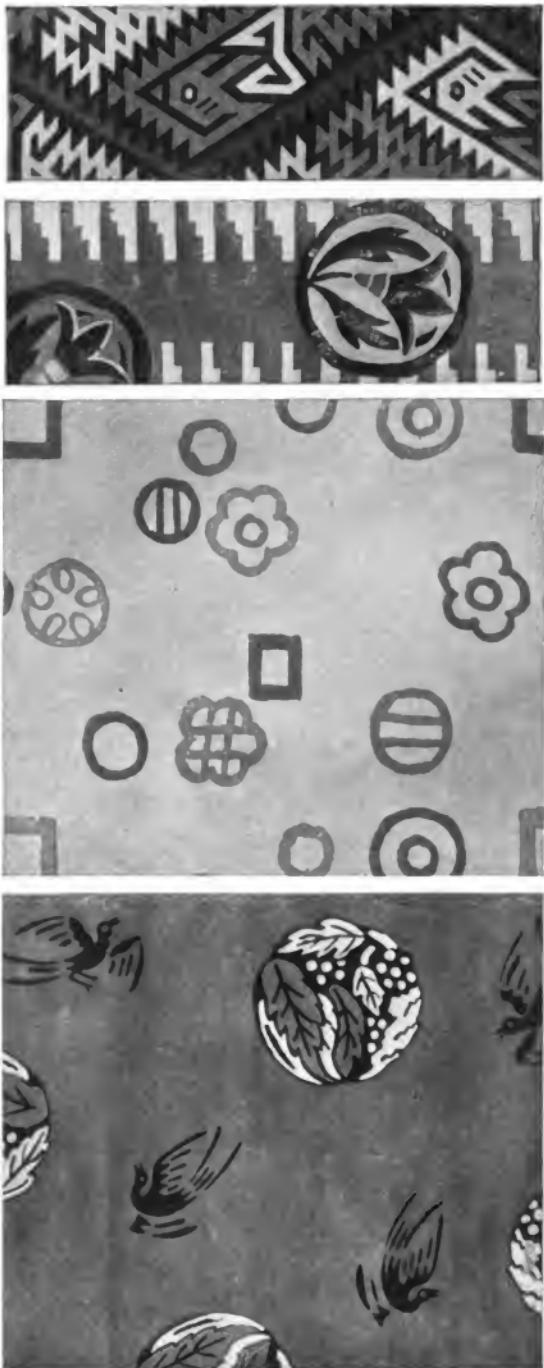
It is by the simple, everyday objects and materials which touch our lives that we receive, for good or ill, the message of art. It has been so in every nation that has created a truly great school, and it was eminently true of the aboriginal Americans. Their art touched every phase of their existence, and it is richest in its textile and costume expression. It will therefore be evident to the thoughtful that the aesthetic possibilities of beautiful textiles are almost limitless. That other arts to-day, such as interior decoration, will follow the tendency in our costumes is a natural corollary. To see and to wear beautiful fabrics and costumes can not fail to develop our artistic appreciation in other lines.

This movement will have a great effect on our export business, for it goes without saying that the wonderful war energies awakened in America during the last two years must find vent in the exports of peace, once the shipment of munitions ceases. It is essential to the success of a great part of this business that the product be typical of our artistic as well as of our industrial development. If we are only copyists we can never be serious competitors.

Bringing the industry, the artist, and the American museum into closer relation has been a personal campaign the actual details of which were divided among lecture courses, personal visits by the artists and the responsible men in the industry to the museum, and by a design contest in which designs submitted from all over the country had to have museum material for inspiration. This design contest developed many artists who have since been successful in the industry, and through it first learned how to use a museum in their work. During the last few months Saturday afternoons have been given over to the technical instruction of an ever-increasing group of designers, who in this way became familiar not only with the problems of the industry, but also with the collections in our exhibition halls.

The author then cites numerous instances of prominent representatives of the silk industry who were induced to visit the museum for the purpose of securing novel ideas in designs. The first of these became an enthusiastic convert to the suggestion as soon as he examined the museum's Peruvian collection, and many of the designs used in his most famous fabrics were inspired by the beautiful things he saw among the Incaic reliques. In another instance the business manager, the mill expert, and the designer of a large silk factory visited the museum together—the first, to see if the claims made by Mr. Crawford were based on fact; the second, to see whether such ideas could be developed on the loom; the third, to convert the ideas into modern design. As a consequence, the last-named has become a constant visitor to the museum, and some of the most beautiful silk ribbons turned out by the factory are the result of his research. Thus the cooperation of the museum with these and many other experts has made it possible for the American woman to portray in her costume the ancient arts of the New World. As to the general use and popularity of the designs thus secured, Mr. Crawford writes:

It would be impossible, within reasonable space limits, to show a tithe of the designs which have been created from this inspiration. Indeed, they are coming



Courtesy of The American Museum Journal.

STRIKING DESIGNS FOR AMERICAN SILKS.

The two upper designs were inspired by the Peruvian and Koryak collections in the American Museum of Natural History, and have been embodied in some of the finest and heaviest of silks produced by a well-known manufacturer in the United States. The idea for the design in the third specimen was taken from the Museum's collections of primitive American art, while the design in the bottom illustration was suggested to the artist by the Amur River collection.

out so fast that it is impossible even to keep trace of them. The designers, working under the guidance of the museum, are spreading this art so rapidly among the industries that many people are buying designs and do not realize that the ideas have been suggested by museum material. As before stated, representatives of the cotton and garment concerns also are beginning to visit the museum with serious intentions.

In regard to the importance of a national textile art and the educational work of the Museum in this field, the author writes:

Thus it can be seen that at least the foundations for a national textile art have been laid, and that the part the American Museum has played in this movement is of importance. Educational work can not be limited by the commercial advantages which accrue to certain enterprising concerns, for the value to the country at large of a great and distinctive art must be obvious. Nothing, unless it be music, so unites a people as a similarity or a sympathy in their decorative associations. We are a Nation composed of many strains of blood, a people which has drawn traditions from innumerable sources, and the political unity which holds us together will be strengthened and vivified by an art which we may truthfully call our own.

To make life a little more gracious, to make beautiful things a little more charming, to bring into the lives of millions of people simple things which carry a message of loveliness—this is the meaning of creative art in America, and this is one phase of the educational work that the American Museum is doing. This transcends in significance the commercial phases of the subject. The loom and the printing frame, the embroidery machine and the garment factory are but the fluid mediums through which the creative ability of American artists is reaching the American Nation; and it is a matter of satisfaction to realize that the diffusion of the new ideas has been and will continue to be a profitable undertaking.

It is perhaps of human interest that through this movement, and because of it, an increasing number of young American artists are receiving recognition and profitable employment, and it is not too much to say that they are developing a fine feeling of loyalty toward this Museum for the cordial reception they have received and the unfailing assistance that has been extended to them. To have taught so earnest a group to make use of the original sources of design in Museum material is in itself an achievement. The habits thus acquired, leading to individual successes, will encourage artists just beginning their career to follow such examples, and the effects of such association must eventually be felt in every branch of American decorative art. This is the true significance of the work.

Paul Wayland Bartlett is the subject of the Sculptors of the Americas series in the May, 1917, number of the Spanish edition of the Bulletin. The following is the English version of the sketch:

Within the past year two notable achievements in sculptural decorative work were brought to completion by their author, Paul Wayland Bartlett, the one at the Capitol in Washington, the other at the New York Public Library. Art lovers throughout the country expressed themselves generously and in laudatory terms concerning these elaborate schemes of adornment, and at the same time reviewed with interest the professional career of Mr. Bartlett, commenting freely upon the marked development in the character of the creations and concepts of his later works as compared with his earlier achievements. For while his first efforts displayed a lively imagination and a technique that was sure and facile, in his more recent efforts there are revealed a technique that is highly accomplished, graceful, and refined, an imagination of arresting and moving appeal, and the assertive accent of mastery.

Mr. Bartlett was born in New Haven, Conn., in 1865. At an early age he went to Paris, where his folks made their home for the time being. Here at the early age of



BARTLETT'S STATUE OF COLUMBUS IN THE CONGRESSIONAL LIBRARY AT WASHINGTON, D. C.

This original conception of Columbus has stimulated the imagination of art students into various interpretations. One writer describes the statue in these terms: "His face, of heroic mold, with broad forehead, deep-set eyes, and firm mouth, is enframed in thick, long locks. His right hand points to the untried route and the unknown lands which he sees in an ecstatic vision. In his left hand hangs the folded map which he has used in his argument. He has finished that, and with his head thrown back he seems to let loose the flood of his eloquent persuasion. 'Can you let slip so great an opportunity?' he seems to ask of the queen and her assembled counsellors."



STATUE OF MICHAEL ANGELO BY BARTLETT IN THE CONGRESSIONAL LIBRARY,
AT WASHINGTON, D. C.

This is probably the most discussed of all of the sculptor's work. Art critics have been thrilled and inspired by the rugged grandeur of this wonderful concept. As one student aptly states, the Michael Angelo who is portrayed is he who was inspired by his own vast possibilities to achieve alone what seemed impossible, who conceived and wrought the Moses and the Sibyls, who was absorbed in the realization of his ideals. His workman's cap and apron are the royal crown and mantle of his kingdom.



BARTLETT'S STATUE OF LAFAYETTE, IN THE SQUARE OF THE LOUVRE, PARIS,
FRANCE.

A magnificent bronze, the gift of the school children of the United States to France. The sculptor spent nearly 10 years before he finally evolved the statue which now rests in its place.

15 he entered the École des Beaux-Arts and at the same time attended the classes in animal sculpture and drawing which the famous sculptor Frémiet conducted in the Jardin des Plantes. Incidentally it might be mentioned that Frémiet observed Bartlett's propensity for sculpture as he watched him model in the garden at Marly and criticized his work from time to time. The hours he spent among the strange and varied inhabitants of the Jardin, his intimate intercourse with bird and beast and reptile were hours when the observant eye and willing fingers were preparing for a later acknowledged mastery of animal sculpture. In consequence Bartlett was able to serve in various studios as an animal specialist and thus earn the means with which to carry on his own studies. It is often related with a sense of amusement that Bartlett and another sculptor, now also risen to prominence, used to go about like peripatetic cobblers or harvesters "doing animals" for whomsoever they found in need of their services, and it is a known fact that among the important embellishments of Paris may be picked out a number of his boyhood works, such as the lion of the Porte St. Denis, the Cerberus with the Orpheus in the Luxembourg; and the gigantic elephant at the Exposition of Amsterdam.

Shortly after his admission to the school Bartlett attained the honor of exhibiting in the Salón a bust of his grandmother, his first public work. At the age of 22, still at Paris, he exhibited a group, *The Bohemian Bear-Tamer*. This had been ready for the public nearly a year before but the sculptor was dissatisfied with the composition and made changes involving another year's work. His skill in the modeling of the animal forms is again shown in the delightfully clumsy bear cubs in the group. The work represents a man leaning over a young bear, endeavoring by voice and gesture to encourage it to antics. The attitude and play of movement are very true to life. The original plaster cast of this group stands in the Chicago Art Institute; the bronze is in the Metropolitan Museum of New York.

In perfection of modeling, however, this gives way to the strange Indian Ghost Dance, a strong work full of technical ability which was exhibited at the Columbian Exposition at Chicago, 1893.. It is now in the collection of the Pennsylvania Academy of Fine Arts.

An attractive collection of bronze castings, reflecting a remarkable degree of manual dexterity, marks another achievement in his earlier career. The knowledge gained through his intimacy with the idiosyncrasies of a sleepy owl or crusty crocodile, of things that creep and crawl and fly, of slippery fish, mettlesome horse, and lordly lion, coupled with his natural genius and skill, enabled him to play with a sure touch on any theme in the life of the brute creation. In this collection his skill with patinas (coloring of bronzes) shows to great advantage. By some deft magic he gave to these tiny masses of modeled metal such a wealth of color as one could scarcely believe possible outside of the realm of precious stones—purples and greens, blues and golden browns, iridescent and brilliant like the lining of shells or the metallic luster of ores and semiprecious gems. This collection won him many honors at the St. Louis Exposition. The Japanese, themselves world-masters in the art of bronze casting, so greatly admired this display that they offered to buy various pieces for their Government.

Following these early productions, a higher artistic sense commenced to assert itself in the concepts of the sculptor, and Bartlett began to produce works more gratifying and worthy of his genius. His Dying Lion, though not widely known, is one of the most original of them all. It is a work of appealing strength and beauty, of intense dramatic power. A veritable king of beasts clings to the sloping rock in the agonies of death, every muscle tense in the supreme effort to live. In this production the perfection of workmanship again establishes the sculptor's right to a lofty position among sculptors of animals.

In the circle of bronze effigies which decorate the rotunda of the Congressional Library Bartlett is represented by two statues which strike a strong note amidst the



STATUE OF BENJAMIN FRANKLIN.

Model of the statue on which the sculptor is still working. When completed it will be placed on the Green at Waterbury, Conn.

RELIEF—DEATH OF WARREN—ADORNING THE PEDESTAL OF THE WARREN STATUE IN BOSTON.

On the pedestal of the Warren Statue is this relief, considered by many as the most exquisite and strictly beautiful of all that Bartlett has done. When exhibited in Paris, it won warm praise for its "vigor and delicacy." In low relief, the harmony of its lines is like music; and most subtly has the sculptor concentrated his effort on the prostrate form of the dying hero in the foreground, surrounded by his grief-stricken friends, while he has gently indicated the distant confusion of the battle, already, with all things earthly, fading away from Warren. It is a funeral march in bronze.





A COLONIAL WARRIOR.

One of a series of statues which will complete the sculptural decorations planned for the capitol at Hartford, Conn., Bartlett's native State.

contributions of the other American sculptors. His statue of Columbus and of Michelangelo show the artist at a high plane of imagination and vigor and revealing true greatness. The statues represent distinct thought and in the handling express strength, confidence, and dramatic appeal.

Among all the surrounding figures Columbus stands out clear in memory as an original and spontaneous conception. It shows the discoverer in a new light. No longer is he the gentle dreamer, the eloquent pleader, the enthusiast; nor yet the silent victim in chains. He is depicted here in a heroic pose, a man of might and confidence hurling proud defiance at his calumniators. His well-proportioned figure, full of life and motion, his left foot advanced, is fit to stand before kings. In this conception, one critic sees the navigator standing perhaps in the presence of the sovereigns to whom he has given a new realm. With maps and charts in hand he is describing the journey, trials, and hardships incident to the discovery of the New World. Frequently interrupted in his account by one of those persistent enemies who surrounded him to belittle his triumph, he pauses in his story, and crushing the maps in his left hand, throws his head back like a creature at bay. Do his eyes seek the throne in wrathful inquiry, demanding protection, or is he looking to a higher power for the vindication which only the centuries may bring? The novelty of the motif interests at once, and the sculptor's large treatment of lines and surfaces is found to be consistently adequate.

In the Michelangelo statue he also has produced a distinct and lofty personality. The short, gnomelike figure with stumpy legs; the big powerful hands; the stern face, rough-hewn, with its frown and tight lips, all combine to make an unwinning presentation at first glance, only to impel lingering attention which turns to admiration and praise. The rugged grandeur of the head, a ruggedness scarred by time and spiritual conflict, reflects his incessant struggles with fate and Popes and the problems of his threefold art. Some critics accept this concept as the long-looked-for presentation of the master, and one contemporaneous sculptor rejoices in the thought that it was an American sculptor who grasped so nobly his character and created the one worthy representation of the mighty Florentine.

The adequacy of Bartlett's characterization of these two men goes far to prove his own largeness as an artist. He has not made his subjects attractive but he has shown them powerful, sufficient, and therefore convincing. He has appreciated them and has risen for the moment at least to their height.

Other public works of Bartlett include the Warren statue in Roxbury, Mass., an heroic conception artistic in design. It presents the beloved physician, patriot, and early martyr of the American Revolution, a noble figure inspired by a noble soul. The pedestal relief depicts the death of Warren and won warm praise for its delicacy and subtlety of treatment. Another is the equestrian statue of Gen. McClellan in Philadelphia. It represents the soldier, sword in hand, in the easy attitude of one accustomed to command. The horse is a superbly modeled animal. Another work indicating international appreciation of the sculptor's art is the statue of Lafayette presented to France by the school children of the United States. It stands in the square of The Louvre, one of the most coveted sites in Paris. The sculptor gave himself up to this work with a wonderful concentration and singleness of purpose. The monumental figure which now stands on the imposing pedestal represents nearly a decade of constant thought and labor. The Lafayette he has evolved represents a fact and a symbol, the youthful officer offering his sword and service to the American colonists in the cause of liberty.

The Bulletin has already had occasion to review the elaborate decorations which now embellish the pediment of the House wing of the Capitol, and to comment on the dignified symbolic statues adorning the front facade of the New York Public Library. The State of Connecticut has also called upon her native son to complete the plan of its sculptural decorations for the capitol. In these works Bartlett does



PAUL W. BARTLETT, THE SCULPTOR, WORKING ON THE MONUMENTAL FIGURES WHICH NOW ADORN THE FRONT FAÇADE OF THE NEW YORK PUBLIC LIBRARY.



THE DYING LION.

This bronze, though little known, is a work of appealing strength and beauty. The fallen monarch lies low, prone upon the earth, the massive head raised upon the upward slant of a rocky ledge, which forms his death-bed. His eyes are closed, but the claws still seek support and clamp themselves like springs of steel upon the stony pillow. This tense body is no mere catalogue of bones and muscles, but a beautiful harmony of expressive forms.



PAUL W. BARTLETT, THE SCULPTOR, WORKING ON THE MONUMENTAL FIGURES WHICH NOW ADORN THE FRONT FAÇADE OF THE NEW YORK PUBLIC LIBRARY.

THE DYING LION.

This bronze, though little known, is a work of appealing strength and beauty. The fallen monarch lies low, prone upon the earth, the massive head raised upon the upward slant of a rocky ledge, which forms his death-bed. The eyes are closed, but the claw still seek support and clamp themselves like springs of steel upon the stony pillow. This tense body is no mere catalogue of bones and muscles, but a beautiful harmony of expressive forms.





THE GHOST DANCER.

An early work by Harriet exhibited at the Columbian Exposition. In construction and in plastic treatment this statue was not surpassed by any piece of sculpture in the Art Palace.



ORNAMENTAL FIGURE.

One of the two vigorous figures which will support an ornamental fountain soon to be erected in Washington.

not merely present a group of figures but rather expresses an ideal and its relation to the architectural environment. He has also departed from the slavish idea that particularly in monumental work one must follow the work of classical antiquity, especially that of the Greeks. On the contrary he has shown how sculpture can become modern without ceasing to be monumental and has pointed out the lines on which American sculpture may attain to a far higher standard than it has yet reached.

Bartlett's art has been happily characterized as being essentially monumental with a happy balance between the austere and the more picturesque or plastic tendencies, and combining the better qualities of the two. He conceives things simply and fundamentally; he gives them form in legitimate sculptural terms; and to these rare virtues he adds the more intimate charm of a delightfully varied yet unobtrusive technic.

Detroit as a Manufacturing City is the subject of a brief sketch in the May number of the Spanish edition of the Bulletin, the English version of which is as follows:

Detroit is one of the few cities in the United States which had their beginnings in French colonization. It was founded in 1701 by Antonio de la Mothe Cadillac as a connecting link between the French colonies of Canada and the French trading posts of the Mississippi Valley, and it became the principal connecting link in the chain from Montreal to New Orleans. As a result of the Seven Years War, by the treaty of Paris, France surrendered to England the whole of its vast empire of Canada, or New France, as it was called, including Detroit. This was in 1763. Twenty years later Detroit, at the close of the Revolutionary War, came under the jurisdiction of the infant federation called the United States. For a while it was the capital of first the Territory and later the State of Michigan.

In 1805 Detroit was entirely destroyed by fire. After the fire the town was laid out on a new plan somewhat similar to that of Washington. Detroit therefore dates from 1805. The old trading post established by Cadillac disappeared in flames and the new city built on its ashes is the resultant of American enterprise and industry. To-day Detroit has more than a half million population and its citizens claim that it is the busiest and most active city of the world. For more than a century after 1805 Detroit grew as most other Middle West cities in the United States, but this growth did not attain remarkable proportions until about 1906 or 1907.

As an inventive people the United States has to its credit many of the greatest inventions and discoveries of the last century. It is no exaggeration to say of all the progressive appliances and agencies of modern industrial civilization more than one-half are due to the inventive genius of the United States. The electric telegraph, ocean steam navigation, the telephone, the aeroplane, the major improvements in steam engines, the eccentric turning lathe, the greatest improvements in steel making, multiple printing presses are all the result of the inventive genius of citizens of the United States. But in the automobile, at the beginning, this country showed a backward spirit. The great beginnings were French, and to France is due for the most part the early development of the automobile, for a development it was rather than a single invention. The United States was more than 10 years behind with the automobile, but in about 1905 it began to awaken, and Detroit may justly claim to be the first center in the country which became fully alive to the great possibilities of the new industry. In the 10 years from 1904 to 1914 it sprang to the front in automobile making—not only the front in the United States but the front of all the world. Carried along with this industry sprang up other allied and nonallied industries in this wide-awake and progressive city.

In 1914 there were in Detroit 2,036 manufacturing plants in operation. Ten years prior thereto, in 1904, the number of plants was 1,362, an increase in number of nearly 50 per cent. But during this period the number of employed laborers increased more



Courtesy of the Detroit Board of Commerce.

VIEWS OF DETROIT.

Upper: A general view of a section of the city seen from the Detroit River. Lower: View of the main business section of the city, showing the City Hall in left center and numerous business structures in its vicinity.



Courtesy of the Detroit Publishing Company.

NEW STATION OF THE MICHIGAN CENTRAL RAILROAD.

Eight different lines of railway enter the city of Detroit and use three terminal stations, viz, the Michigan Central Station (shown in the picture), the Union Station, and the Brush Street Station. A Travelers' Aid Secretary of the Young Women's Christian Association is to be found at each of the three stations to direct travelers who need information or assistance.

Courtesy of the Detroit Publishing Company.

BUSINESS STRUCTURES IN DETROIT, MICHIGAN.

Detroit claims to be the busiest city in the United States—the busiest country in the world. The city is modern in every respect, particularly in the architecture of its business buildings. The picture shows one of the new office buildings to the left and one of its finest hotels to the right.





Courtesy of the Detroit Publishing Company.

THE HEART OF THE BUSINESS DISTRICT OF DETROIT.

In the foreground may be seen the tower of the City Hall, while the three skyscrapers shown are the Ford office building to the left (18 stories); the New Penobscot Building (24 stories), and the Dime Bank (25 stories).

CADILLAC SQUARE, DETROIT, MICHIGAN.

Courtesy of the Detroit Publishing Company.

The center of this square, which extends for two city blocks, was originally covered with grass but is now used as a parking station for automobiles. It was named in honor of Arisine de la Motte Cadillac, Knight of St. Louis who founded the city of Detroit, then called Fort Pontchartrain, July 24, 1701. In the right center background the comparatively modest looking building with the tower is the City Hall, while the skyscrapers grouped about it are hotels, office buildings, and other business structures.



than 100 per cent. from 48,483 to 99,603, and their wage over 200 per cent. from \$22,558,000 to \$69,447,000. The value of the products of these factories increased 212 per cent. from \$128,247,000 to \$400,348,000; and the cost of the materials used in the factories 234 per cent. from \$66,581,000 to \$222,249,000.

In this brief paragraph is summed the total of Detroit's industrial growth and a wonderful story is hidden in the dry figures. The laborers are doubled, but their yearly wage is increased 50 per cent., from \$465 to \$697, and the value of the product becomes more than three times what it was. It is doubtful if any other manufacturing city in the world can show for the period in question such an industrial growth.

In 1914 there were in all 2,036 factories, and 1,725 of these the United States Bureau of the Census classifies under 44 headings. Under these headings the following had an output of more than \$3,000,000 each a year:

	Number of fac- toories.	Output.
Automobile.....	122	\$164,076,000
Foundry and machine shops.....	221	29,465,000
Meat packing.....	13	20,321,000
Tobacco manufactures.....	157	17,044,000
Brass and copper manufactures.....	38	14,630,000
Medicines and drug preparations.....	63	13,691,000
Printing.....	265	13,168,000
Malt liquors.....	19	9,410,000
Bakeries.....	275	7,489,000
Lumber.....	47	6,654,000
Stoves.....	8	5,921,000
Sheet copper and tin manufactures.....	68	4,369,000
Men's clothing.....	20	3,897,000
Paint and varnish.....	10	3,867,000
Furniture.....	29	3,383,000

Some of the other leading classified industries are boots and shoes, preserved foods, women's clothing, confectionery, electrical goods, hosiery and knit goods, iron and steel mills, leather goods, wire, and soap.

There were 311 factories representing the industries not classified by the Census Bureau. These latter employed 15,002 laborers, whose wages amounted to \$10,773,000 a year. These factories consumed raw material to the value of \$28,976,000, and the value of the finished products was \$58,908,000.

In reading the figures above one fact stands out prominently, and that is that the automobile industry in Detroit overshadows all others.

Notwithstanding the importance in themselves of the industries of meat packing, tobacco, medicines and drugs, beer, lumber, stoves, clothing, paint, and furniture, the fact remains that the total of all these industries is less by far than the total of the automobile industry. Furthermore, several of the leading industries, such as foundry and machine shops, and brass, copper, and tin shops, are largely feeders to the automobile industry.

Detroit, industrially considered, is a city with a specialty, and a very important specialty it is. Already one of the world's great manufacturing industries, automobile construction is destined to be in all probability its greatest manufacturing industry. In a sense one can see a limit to the automobile as a passenger vehicle, but who can see the limit of its use as a freight carrier or as a mobile power plant suitable not only for agriculture but for many other nonmanufacturing industries? Even the limits indicated, broad as they are, may prove too narrow in the future of the world's industrial history. The possession of a light and easily transported power plant opens up new and heretofore unknown industries which in the end may prove as important as the known industries of to-day. Detroit has established itself as the leading center of the automobile industry of the United States. The United States is now the leading country in the world in this as in many other industries, so that Detroit in effect becomes the world center of the manufacture of motor cars.



Courtesy of the Detroit Publishing Company.

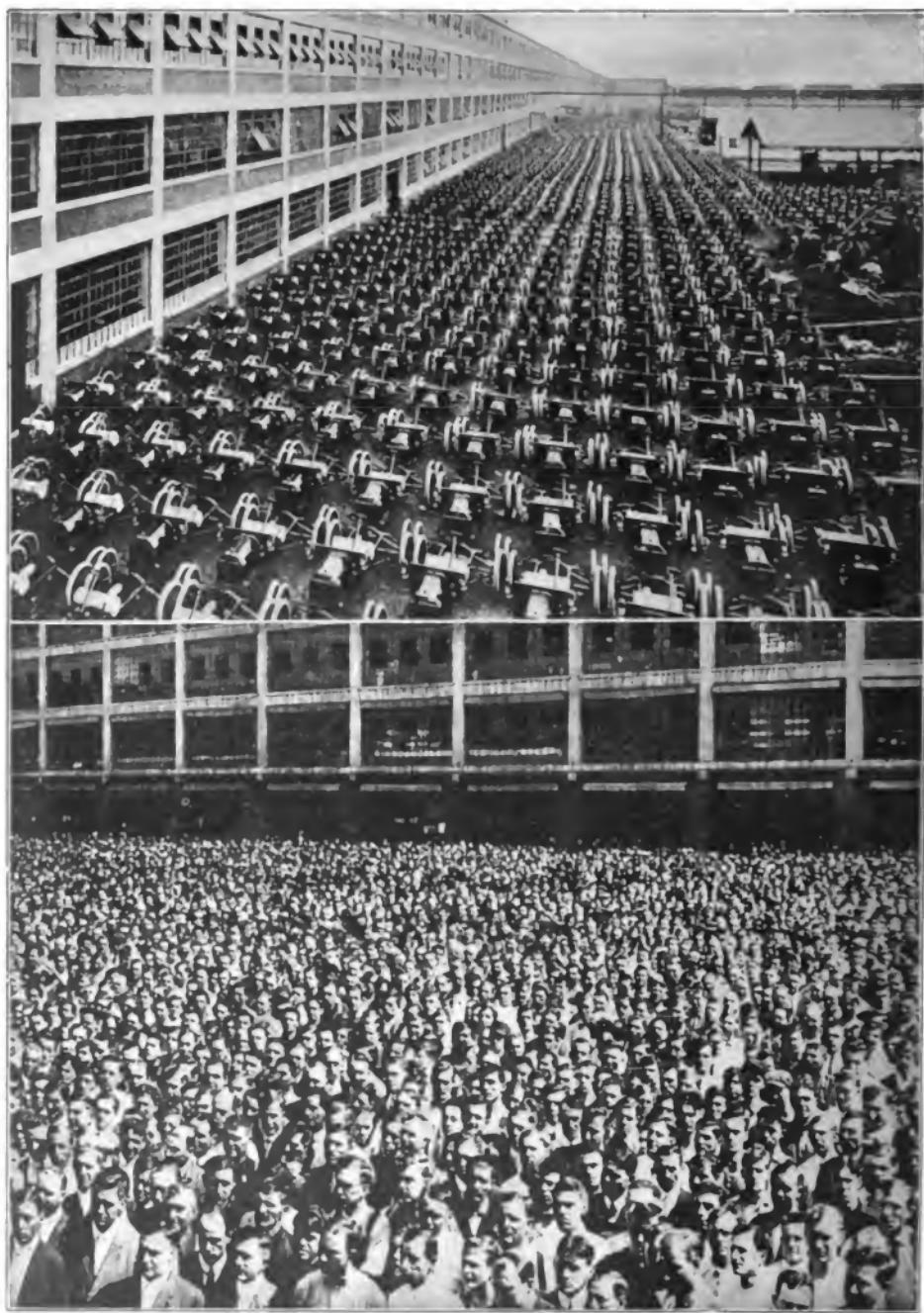
DETROIT VIEWS.

Upper picture: Grand Boulevard, a magnificent driveway which encircles the city. It extends a distance of 12 miles and affords those driving over it views of every phase of city life, including the homes of rich and poor, industrial plants, schools, philanthropic institutions, hospitals, churches, theaters, libraries, etc. Lower picture: A scene in Belle Isle Park, the largest and most famous of Detroit's parks. It is a large wooded island in the Detroit River, about 2 miles long, and contains 707 acres. It is encircled by a 5-mile driveway, and one of its features is a canal which winds through the woods and under concrete and rustic bridges, widening into lakes dotted with small islands. The upper end of the island has been left in a natural state and contains acres of lofty trees and dense woods.

INTERIOR OF A DETROIT AUTOMOBILE FACTORY.

Detroit is the leading center of the automobile industry in the United States. The city boasts of 122 factories engaged in making complete automobiles or parts that go into their construction. Nearly 34,000 mechanics and laborers are employed by these factories whose pay roll amounts to over \$26,000,000 annually. The value of the automobile production for the year 1914 in the city of Detroit alone amounted to \$164,000,000, and the production has increased tremendously since then because of the European demand growing out of the war. The above picture shows the interior of only one department, where the crank shafts are made, of one of the great factories which turns out over 3,000 automobiles every working-day of the year.





Courtesy of *The World's Work*.

THE AUTOMOBILE INDUSTRY IN DETROIT.

Upper picture: View of a portion of the 3,000 automobiles turned out daily in one of Detroit's factories, still in their unfinished state. Some idea may be had of the importance of the automobile industry of the country when it is stated that there are at present 3,200,000 motor vehicles in actual use in the United States, against 800,000 in use in all the rest of the world. Lower picture: Only a portion of the 27,000 persons employed by one of the leading automobile factories of Detroit.



Courtesy of the Detroit Board of Commerce

STEAMERS ON THE DETROIT RIVER.

Detroit is situated on the Detroit River, a deep strait 31 miles long, which connects Lake Erie with Lake St. Clair. The tonnage of this river is said to be greater than the combined tonnage of Liverpool, London, and Hamburg. Over one-third of the tonnage of ships in the United States and one-half of the steamers of 1,000 tons burden are on the Great Lakes, and most of these vessels pass through the Detroit River. In 1913 there were 37,473 vessels passed through the river carrying over 85,376,705 tons of freight, valued at \$927,191,015.

In 1914 about one-fourth of the whole automobile industry of the United States was centered in Detroit in 122 factories making completed automobiles, bodies, or parts. These factories, as has been shown above, employed 33,439 mechanics and laborers. In the factories outside of Detroit the number was 93,653. The horse-power employed in Detroit was 39,458; outside of Detroit, 134,226. The wages paid in Detroit, \$26,368,000; outside, \$75,559,000. The material consumed in Detroit, \$101,382,000; outside, \$257,826,000. The value of the product in Detroit, \$164,076,000; outside, \$468,755,000. The figures as stated are for the year 1914. Since then there has been an enormous increase in the industry in Detroit and elsewhere in the United States. This increase would have occurred in any event, but was accelerated by the European war and the large orders from France, England, Russia, and Italy for automobiles and trucks.

In the United States at large the automobile industry increased about twentyfold in the 10 years from 1904 to 1914, as shown by the value of the output, which in 1904 was \$30,033,000 and in 1914 \$632,831,000. In Detroit alone in the same period the output advanced from \$6,240,000 to \$164,076,000, an increase of twenty-six fold.

Some Facts Relative to the Solar System is the title of an article published in a recent number of the Spanish edition of the Bulletin which, while it embodies matter that is more or less elementary in the science of astronomy, may be of some interest to the general reader in the United States, and is therefore reproduced in its English form, as follows:

One of the oldest as well as most fascinating studies that has ever chained the interest of thoughtful men is that of astronomy, the arrangement of the stars. Just when men first began to study and to classify the stars visible to the unaided human eye is not known, for this is one science that antedates all written records. This fact is easily accounted for when we reflect that man could not have developed much intelligence without becoming tremendously interested in that to him most important of all stars, the sun, as well as in the earth's beautiful little satellite, the moon. Light, warmth, and even the sustenance of life itself he owed to the great, flashing, luminous star that regularly arose from the eastern horizon every morning and disappeared beneath the western every evening. No wonder that it became an object of worship and of awe, a deity that controlled everything pertaining to his welfare and happiness, and no wonder that he began to study its movement and desired to know more of it. His interest once directed to the sky, his attention soon wandered to the other celestial wonders he beheld at night, and out of the primary worship of the sun grew the ancient worship of all the other heavenly bodies. Astrolatry—the worship of the stars—grew into astrology, the so-called science of the stars, and that in turn into astronomy, the real science of all the celestial bodies and the varied phenomena connected therewith.

Notwithstanding the tremendous progress in general human intelligence and in the diffusion of knowledge among the masses of civilized people to-day, the character of their interests is such in this highly commercialized age that the science of the stars is a sealed book to the vast majority, especially to those who live in cities. Their view of the sky is circumscribed and limited by their environment, even as are their thoughts and their desires. If they were ever taught anything in regard to these myriads of other worlds that cluster so thickly about our own little planet, they have forgotten it and very few take even sufficient interest in the marvels of the heavens at night to seek to know the names of the earth's sister worlds in our own solar sphere or those of the plainest groups of stars that glorify the vast expanse of limitless space overhead. To such as these the knowledge of the ancient astronomers must seem astounding and almost incredible, to say nothing of that of our modern scientists,



Courtesy of The Guide to Nature (Arcadia, Sound Beach, Conn.). Photo from Yerkes Observatory.

THE NEBULA IN PLEIADES SHOWN BY PHOTOGRAPHY.

Nebula (Latin for cloud) is the name given to certain luminous cloudy patches to be seen in many parts of the heavens, which always retain their same relative position with respect to the stars. Many of these luminous patches, when viewed through the more powerful of modern telescopes, are found to be composed of clusters of little stars which to the unaided eye, or even through small telescopes, are invisible separately. Others, however, can not be resolved into individual stars by the most powerful telescope, and the evidence of the spectroscope is that the true nebula has a constitution different from that of a star cluster. It has been estimated that no less than 500,000 nebulae are visible through the great reflecting telescope at the Lick Observatory, California. The above reproduced photograph shows the irregular nebula to be seen in the constellation known as the Pleiades, sometimes called "The Seven Little Sisters" in popular parlance.



Courtesy of The Carnegie Institution of Washington

SPIRAL NEBULA (MESSIER 51) CANUM VENATICORUM.

Nebulae are generally classified according to their shape and appearance when viewed through a telescope. Among the most interesting are the spiral nebulae. These are usually in the form of a double spiral, the two branches of which proceed from diametrically opposite points of a bright nucleus and wind around it in the same sense; the whole is generally studded with points of condensation. The great majority of the nebulae are generally classed as spiral, although comparatively few positively show this structure, it being inferred as to the remainder. The spiral nebula pictured above, located in the Canes Venatici, is perhaps the finest example of this type.

and the facts in connection with this particular phase of human knowledge are remarkable in very truth.

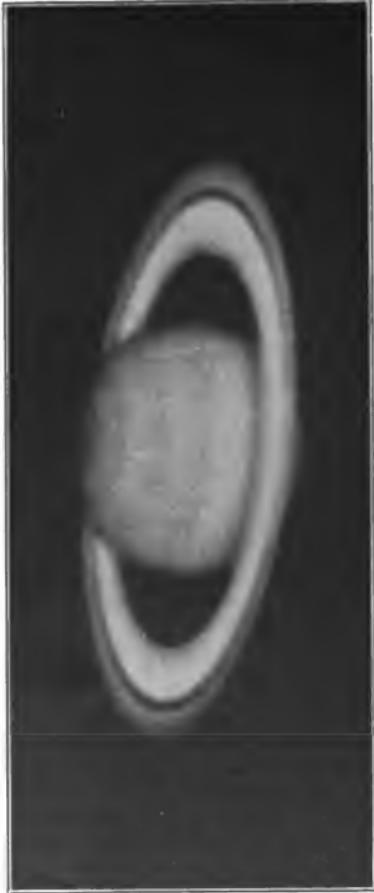
In China 2,300 years before the Christian era equinoxes and solstices were determined by means of culminating stars, while in the Shu Chung, a collection of documents that were antique even in the time of Confucius (550-478 B. C.), it is stated that in the year 2136 B. C. two astronomers were put to death for failure to perform certain rites connected with eclipses of the sun. As early as 2000 B. C. the Chinese were acquainted with the 19-year cycle by which solar and lunar years were harmonized, while for centuries before this date they had made observations in the meridian, regulated time by water clocks, and used measuring instruments of the nature of armillary spheres and quadrants. Incidentally, it may also be noted that in more recent times it has been found that two instruments which were constructed at the time of Kublai Kahn's accession in 1280 were provided with large graduated circles adapted for measurements of declination and right ascension, proving that the Chinese anticipated by at least 300 years some of Tycho Brahe's most important inventions.

It was from the Babylonians, however, that the Greeks derived their first real knowledge of astronomy. How long it had been a subject of careful study in Babylon there is no means of knowing. Records dating from the reign of Sargon of Akkad (3800 B. C.) imply that even then the varying aspects of the sky had been long under expert observation, and some of the star groups now recognized by modern astronomers had been noted and named. In the main the constellations transmitted to the Greeks by the Babylonians had been arranged in their present order by 2800 B. C.

When it is remembered that these ancient observers of the sky had no mechanical means of aiding their sight their astronomical knowledge is indeed remarkable. Compared with the knowledge of astronomers of the present it was, of course, crude and inaccurate. The modern telescope, the recent invention of the spectroscope, and the extremely sensitive photographic plate have enabled the latter to make of astronomy an exact science; in fact, perhaps the most exact of all sciences. By means of the telescope thousands of stars formerly invisible have been discovered, the tremendous distances of interstellar spaces have been modified, and accurate calculations have been made possible. The spectroscope enables the modern astronomer to analyze the light from the most distant of visible stars and nebulae and to determine the chemical elements which enter into their composition. The sensitive photographic film enables him to accurately map the heavens and to discover stars too remote even for the most powerful of telescopes to detect.

Much of the knowledge of the stars, however, is only for the scientists. To the average man astronomy is an abstruse study, involving principles of higher mathematics that to him are incomprehensible mysteries. When told that the astronomer can predict an eclipse of the sun or moon that is to take place some thousands of years hence with such accuracy that it will take place within a few seconds of the time indicated, he has his doubts about it, but, since he has no means of disproving it, accepts the statement. When told that there is iron in the sun, hydrogen in many of the stars and nebulae, calcium in others, etc., he takes it for granted that the astronomers know what they are talking about and admits that he doesn't. Still, this average man takes a general interest in the solar system, especially when his attention is attracted to the brilliant Venus or Jupiter in the evening sky, or when he casually notes the brighter groups or star clusters, and to such an one the following facts relative to that solar system may be of more than passing interest.

In the solar system we have the great central body—our Sun, around which revolve the 8 major planets and their 26 moons, the 800 minor planets or asteroids discovered to date, the zodiacal-light materials, the comets, and the meteors. The Sun is one of the ordinary stars. It seems very large, very bright, and very hot, because it is relatively very near to us, and we receive from it our entire supply of energy; but, compared with the thousands of other stars visible on any clear night, it is merely an



Courtesy of The Guide to Nature (Areadia, Sound Beach, Conn.) Photo by E. E. Barnard, Yerkes Observatory.

THE PLANET SATURN.

Saturn is the sixth planet in the order of distance from the Sun. Its density is only 0.13 that of the Earth's, and therefore its diameter is nine times that of the Earth's, and its period of revolution around the Sun is about 29½ years. Its most striking and unique feature is its ring system. The rings are not formed of a continuous mass of solid or liquid matter, but are thought to be separate particles of unknown minuteness, probably widely separated in proportion to their individual volume and yet sufficiently close to one another to appear continuous when viewed from the Earth, all revolving around the planet, each particle in its own orbit. As a consequence the particles forming the inner regions of the rings (i.e., those closest to the planet) revolve about it with greater velocity than do those forming the outer regions. A remarkable feature of the rings is that they are so thin as to nearly disappear from view when seen edgewise through even a powerful telescope. This happens, of course, only when the edge is turned directly toward the Earth, and it was this feature which puzzled Galileo, who was the first to discover the rings as seeming ends protruding from the planet like handles. Subsequently they disappeared, and by the time they reappeared Galileo seems to have abandoned telescopic observation. The phenomenon was not explained until Huyghens advanced the ring theory in 1656, a theory subsequently verified by the modern telescope.

average star. Nevertheless, the Sun is a very large body; if it were a hollow shell of its present diameter we could pour more than a million Earths into it and still have empty the space between the earth-balls. Starting from the Sun as the center and traveling outward, we come, first, to the small planet Mercury, its diameter a little more than one-third that of the Earth's, and which revolves once around the Sun in 88 days; secondly, to the planet Venus, just a little smaller than the Earth, with a period of revolution of 225 days; and, thirdly, to the Earth and its moon, which revolve around the Sun in one year. Fifty per cent farther out than the Earth is Mars, its diameter a trifle more than half the Earth's, with two small moons, and a period of revolution of 1.9 years. Next are the asteroids, about 800 in number, which revolve around the Sun, each in its own orbit, in from one and three-fourths to eight years, the orbits varying greatly in size, eccentricity, and position of orbit planes; then we come to the giant Jupiter, its diameter eleven times that of the Earth's, with its 9 moons, the system completing a revolution about the Sun in 12 years; still farther out is Saturn, its diameter nine times the Earth's, with its wonderful ring system and 9 moons, all revolving around the Sun in 29½ years; next is Uranus, four times the size of the Earth in diameter, with 4 moons, all revolving around the Sun in 84 years; and finally there is the outermost planet, Neptune, a shade larger than Uranus, and with one moon, requiring 165 years to travel around the Sun.

Again, as to the material which composes the solar system: Its distribution is most remarkable. Nearly all of it is in the Sun. If we add together the masses of the major planets, the hundreds of asteroids, the satellites, make liberal allowance for the comets, etc., and call the total 1, then the mass of the Sun on the same scale is 744; that is, of 745 parts of matter composing our Solar System, 744 parts are in the Sun and only 1 part in the bodies revolving around it. In other words, 99½ per cent of the matter contained in the entire Solar System is in the Sun and one-seventh of 1 per cent is divided among all the bodies revolving about it. The four outer planets, Jupiter, Saturn, Uranus, and Neptune, contain 225 times as much material as the four inner planets, Mercury, Venus, Earth, and Mars. The Earth, however, is three thousand times as massive as the 800 asteroids combined.

Another striking fact in connection with our Solar System is that it is very completely isolated from other systems in stellar space. Light, which travels at the rate of about 300,000 kilometers per second (approximately 187,500 miles), takes only 4½ hours to traverse the space between the Sun and the outermost planet of the system, Neptune, whereas it requires 4½ years to travel from the Sun to the nearest star, *a* Centauri. In other words, the nearest star is more than nine thousand times as far from our system as our farthest planet, Neptune, is from the Sun. It would take 7 years for light to travel from the Sun to the next nearest star, while from the Sun to Sirius it would take 9 years. The average distance between neighboring stars in our part of the universe is such that it would require from 6 to 8 years for light to travel from one to another. That such tremendous, inconceivable distances really separate the stars which we see so plentifully distributed throughout the heavenly dome above us on a clear night is almost incredible to the average man, but this is but one of many astounding facts presented to us by that most marvelous of all sciences—astronomy.



PAN AMERICAN NOTES

BOLIVIA'S INAUGURATION.

On August 15 last the new President of Bolivia, Don José Gutierrez Guerra, was inaugurated. The event was one of far greater significance than the usual induction to office of a chief executive. As evidence of this fact at least five neighboring nations, Argentina, Brazil, Chile, Paraguay, and Uruguay, sent special ambassadors to the ceremonies, while Mexico, Peru, the United States, and Venezuela designated their diplomats or distinguished citizens temporarily residing in the Bolivian capital to act in similar capacities. Never before have foreign nations paid to Bolivia more distinguished honors at the incoming of a new administration. These conspicuous honors no doubt are due to the great economic progress that has come to Bolivia during recent years, and to the stand lately taken in international affairs.

The United States in naming its minister in La Paz, Hon. John D. O'Rear, as special ambassador for the occasion made it known that no precedent was thereby established, but that the act was solely a token of recognition of the lofty and patriotic ideals of the Bolivian nation in standing steadfast for the cause of right and justice in the present international crisis.

One of the special features of the inaugural parade was the marching of 8,000 school children, typifying the era of new and better educational advantages now enjoyed by the youth of the land and their loyalty to their country.

THE WOMEN'S AUXILIARY CONFERENCE OF THE SECOND PAN AMERICAN SCIENTIFIC CONGRESS.

Readers of the BULLETIN will recall the fact that the women's auxiliary conference of the Second Pan American Scientific Congress was held in the city of Washington December 28, 1915, to January 7, 1916. Acting with the authorization of the executive committee of organization of this great international gathering of Pan American savants, scientists, and publicists, the conference held its sessions under the auspices of the congress, although it had its own program committee and organizing secretary, duly nominated and appointed through the same channels observed for the organization of the congress.

A formal notice of the conference and a general invitation to participate in its proceedings on the part of the women accompanying the distinguished representatives of the Latin American countries to the



Photo of Bard by Underwood & Underwood; all others, except of Huntington and Ward, by Harris-Ewing.

OFFICERS OF THE PAN AMERICAN SOCIETY OF THE UNITED STATES.

From 1 to 14, in consecutive order: President, John Bassett Moore; honorary presidents, the Secretary of State of the United States, Robert Lansing, and the ranking ambassador from Latin America, Domicio da Gama, of Brazil; honorary vice presidents, Elihu Root, Andrew Carnegie, Archer M. Huntington, Robert Bacon, Lloyd C. Griscom, Henry White; first vice president, Cabot Ward; second vice president, John Barrett; third vice president, Nicholas Murray Butler; secretary, Harry Erwin Bard; treasurer, Lorenzo Daniels.

Scientific Congress was sent by cable—the conference not having been organized as a part of the Scientific Congress until late in November—by the Department of State through the customary diplomatic channels for presentation to the Latin American Governments.

Late in November a formal letter of invitation signed by the secretary general of the Second Pan American Scientific Congress, Hon. John Barrett, Director General of the Pan American Union, was mailed to a large number of representative women in the United States, inviting them to present papers, to attend the conference, and to take part in the proceedings.

The conference was a signal success, and while there were many delightful social functions in honor of the distinguished Latin American women who attended, there was also much more serious work undertaken. A recently published report of the women's auxiliary committee of the United States of the Second Pan American Scientific Congress goes into some detail concerning this work, and the following excerpts will indicate the character of some of the important activities of the conference:

Seven sessions of the women's auxiliary conference were held at the time of the Scientific Congress. The permanent chairman, Mrs. Robert Lansing, was assisted in presiding by Mrs. David F. Houston, Mrs. William Cumming Story, Mrs. Albert S. Burleson, Miss Mabel T. Boardman, Miss Julia C. Lathrop, Mrs. Percy V. Pennybacker, and Mrs. Archibald Hopkins. Mrs. Blanche Z. de Baralt acted as official interpreter.

Thirty-one papers were presented before the conference, all of which were related to its objects, and strikingly emphasized the necessity and importance of the cooperation of women in scientific efforts, broadly defined, for further improvement in social and civic conditions.

The purposes of the women's auxiliary conference program committee were definitely realized by the character of the papers presented at the conference, the cordial and sympathetic discussion of them from the floor, and by the adoption of the following resolutions:

"(1) The publication in Spanish, Portuguese, and English of a brief summary of the objects sought by the conference and the proceedings of the meetings, to include, perhaps, translations of a few of the most interesting papers as illustrating the topics which came before the conference for discussion.

"(2) The formation of an informal international committee composed of those ladies from Latin American countries and the United States who desire to lend the movement their support. Possibly there should not be more than two or three ladies from any one country on the committee.

"The duties of this committee might be, in the first instance:

"(a) The intelligent distribution in the various countries of the published proceedings of the conference.

"(b) The keeping alive of the objects of the first conference by correspondence or otherwise, so that, if in future, a more permanent women's organization is established, there may be a group of women in various countries in this hemisphere having a knowledge of the efforts of the first conference and an interest in its purposes.

"(3) The appointment of a secretary who would distribute the published proceedings among the ladies of the continuing committee and who would be the medium through which they could keep in touch with the efforts of the members of the committee in other countries.

"Inasmuch as the executive committee of the Second Pan American Scientific Congress resumes its labors at the close of the congress, it is suggested that any recommendation of the continuing committee of the women's auxiliary conference should be submitted to it before any further action is taken."

A report of the conference was published in Spanish and English in June, 1916. It gives a brief summary of the purposes of the conference; the part women had taken in the Latin American and Pan American Scientific Congresses, with lists of the women who were members of those congresses; the preliminary history of the conference, its proceedings, including abstracts of papers presented, names of members of all committees, and a list of social entertainments. The report may be obtained from the executive secretary, Mrs. Glen Levin Swiggett, the Mendota, Washington, or Mr. John Barrett, director general, Pan American Union, Washington.

The resolutions adopted by the conference called for the appointment of an international committee to be composed of two or more members from each of the 21 Republics constituting the Pan American Union. The members of this committee have been largely appointed, and there will be an announcement shortly of the names of all the members constituting the committee.

The following paragraphs are quoted from the letter of invitation to membership on the international committee signed by the chairman of the women's auxiliary conference of the Second Pan American Scientific Congress, Mrs. Robert Lansing:

"This initial conference of women of the Western Hemisphere, which held its sessions in the beautiful Memorial Hall of the Daughters of the American Revolution, in the city of Washington, during the period of the Scientific Congress, was very successful; and there is every reason to hope that from this simple beginning there may develop along educational and philanthropic lines an organized and cooperative movement among the women of the American Republics which, working as a strong international factor for economic and social betterment, may serve as a means for the expression of the culture of this hemisphere. * * *

"Will you kindly favor me with suggestions as to the steps which in your opinion should be taken, looking to a second conference of the women of the Americas, perhaps to be held at the time and place of meeting of the Third Pan American Scientific Congress, which is now scheduled for Lima in the year 1921."

The responses from the different countries to this invitation to serve on this international committee were prompt and most sympathetic, indicating an active interest in the object sought by the women's auxiliary conference. There has been uniform expression of hope that there may be held a Second Pan American Conference of Women, and the belief expressed that the conference should occur at the time of the Third Pan American Scientific Congress, which meets in Lima in 1921.

DIVISION OF ARCHEOLOGY IN MEXICAN GOVERNMENT.

In accordance with one of the recommendations presented at the Second Pan American Scientific Congress, the Mexican Government has established a division of archeological and ethnographic studies in the department of promotion (fomento), and is already actively engaged in developing this new division to a high point of achievement. The main object of this newly created scientific bureau is the investigation and study of the civilizations and culture of the native peoples of that country, their material and intellectual progress, including their various dialects and languages. The studies will cover the early years before the Spanish rule and follow the development to the present day. As director of this division the Govern-



THE SECOND VENEZUELAN MEDICAL CONGRESS.

The Second Venezuelan Medical Congress met in the city of Maracaibo January 18-23, 1917, and elected the following officers: President, Dr. Francisco E. Bustamante; vice presidents, Dr. Rafael E. Villavicencio, Dr. Luis Pérez Carrero, Dr. Manuel Núñez Tovar, and Dr. Pedro Rodríguez Rivero; secretary, Dr. Adolfo Pámpaire. The Third Congress will meet in Ciudad Bolívar in commemoration of the centenary of the Congress of Angostura, and the Fourth is to meet in Valencia on the occasion of the anniversary of the battle of Carabobo.

ment has appointed the well-known scholar and scientist, Dr. M. Gamio, who was president of the Mexican delegation to the scientific congress already referred to.

THE NINTH ANNUAL CONVENTION OF THE SOUTHERN COMMERCIAL CONGRESS.

The Ninth Annual Convention of the Southern Commercial Congress is to be held in New York City October 15-17, 1917. The outline of the general theme of the convention shows that subjects covering a wide scope are to be considered. They may be grouped under the following principal headings:

- (1) Activities of the Southern Commercial Congress as to agriculture, colonization, municipal efficiency, and commerce.
- (2) The interpretation of the resources of the South.
- (3) Organization and mobilization of all the material resources of the country, economically and efficiently.
- (4) Interdependence of the several sections of the United States.
- (5) International reconstruction.

The congress will be devoted to not only the most practical consideration of the questions related to agriculture, education, municipal government, industry, and commerce, but will also consider the vital problems of the organization and mobilization of the resources of the country for national defense, and study the problems related to international reconstruction. It will seek to promote the interrelations of the several sections of the United States, will review the national program in the scheme of common defense, and endeavor to outline plans of action with regard to constructive activities for the future. Important reports are to be submitted by certain national and international organizations bearing on such subjects as agriculture, colonization, municipal efficiency, manufactures, and foreign trade. The convention will be attended by legislative and executive officers of the United States Government, by prominent State officials, diplomatic officers of foreign countries, experts in various lines of activity connected with the subjects to be considered, and many of the leading commercial and professional men of the country. Gov. Charles S. Whitman, of New York, has made official announcement of the convention and has extended a cordial invitation to the chief executives of the States of the Union and citizens generally to visit New York during the sessions of the Congress.

TEACHERS OF SPANISH NEEDED IN NEW YORK HIGH SCHOOLS.

The BULLETIN has received a circular letter, issued by the board of examiners of the department of education of the city of New York, which is addressed to "Teachers of Spanish," and in which it

Photograph by Harris & Ewing.

ILLUMINATION OF THE AZTEC GARDENS IN THE REAR OF THE PAN AMERICAN UNION BUILDING AT THE RECEPTION GIVEN IN HONOR OF
THE JAPANESE MISSION TO THE UNITED STATES BY THE SECRETARY OF STATE AND MRS. LANSING, AUGUST 28, 1917.

The Imperial Japanese Mission, headed by Viscount Ishii, ambassador extraordinary and plenipotentiary, included the following members: Vice Admiral Takeshita, Imperial Commander-in-Chief, Imperial Japanese Army; Mr. Masanao Hanihara, consul general at San Francisco; Mr. Matsuo Nagai, secretary of the foreign office; Commander Ando, Imperial Japanese Navy; Lieut.-Col. Tanikawa, Imperial Japanese Army; Mr. Tadao Imai, vice consul; Mr. Tashiro Owaku, secretary to the mission; Mr. Douglas L. Dunbar, American secretary to the mission. In addition to the hosts and the special mission, Mr. Amanaro Sato, the ambassador from Japan, assisted in the receiving line. The occasion was graced by the presence of President and Mrs. Wilson, members of the cabinet, and prominent diplomatic and official representatives from the allied nations.



is stated that "there is need in the high schools of this city of experienced teachers of Spanish. The number of students who elect this language is rapidly increasing and the number of candidates for license to teach Spanish does not keep pace with the increase in positions. For that reason it is thought desirable to place before you the advantages open in our schools to well trained teachers of that language." The various advantages set out in more or less detail may be summarized as follows:

(1) The salaries paid high-school teachers range from a minimum of \$900 to a maximum of \$2,650 per annum. The fourth-year salary is \$1,300 and thereafter is increased by \$150 a year until the maximum is reached.

(2) Teachers are appointed for a probationary period of three years, and thereafter enjoy a permanent or good-behavior tenure.

(3) Teachers of experience and ability, who have rendered a number of years' service in the city schools, may qualify in the examinations, given at occasional intervals, for license as "first assistant teachers," and upon appointment as such may attain the maximum salary of \$3,150 per annum. Separate departments of Spanish are gradually being formed in the various high schools. There are 24 high schools at present in the city, and there are but three first assistant teachers whose specialty is Spanish. The likelihood seems strong that in the next several years a number of first assistants in Spanish will be needed.

(4) A liberal and sound pension system for New York City teachers has recently been created by State law, which permits the retirement of a teacher on half-pay at the end of 35 years of service (including accredited service in schools outside of New York City), or at 65 years of age, provided he shall have made such contribution to the pension fund as the table of rates requires.

(5) New York City provides exceptional opportunities for the teacher of Spanish who is ambitious to improve his knowledge and his ability to use the Spanish language. The Hispanic Society of America, a richly endowed organization, has in that city a beautiful museum of Spanish art and a library of Spanish books and manuscripts, which is without equal outside of Spain. There is also a large Spanish-speaking population, with its churches and numerous societies, while the city is the chief center of the export and import trade between Spanish countries and the United States. Furthermore, able teachers of Spanish may find many opportunities to teach that language in evening schools, especially in the evening high schools, conducted by the board of education, in which schools, as well as in the day high schools, there has been marked lack of Spanish teachers during the past four years. The salary for services in these



THE GARDENS AND LIGHTING
EFFECTS ON THE NIGHT OF
THE RECEPTION TO THE
JAPANESE MISSION AT THE
PAN AMERICAN BUILDING.

Seldom has there been such a brilliant display of oriental charm and splendor as characterized the setting for the reception given by Secretary and Mrs. Laning to the Imperial Japanese Mission. The guests after passing along the receiving line went through the Hall of the Americas down the two grand stairways in the rear onto the terrace and into the Aztec Gardens. The illuminations brought out the beautiful lines of the grounds in the same way that the Japanese illuminate their gardens on feast occasions. The sloping grounds under the balustrades spangled with electric lights hidden in the green mystery, while the central pool, outlined by lights brightly reflected its picturesque environment in the water. The large Aztec figure of the "Sad Indian" was brought out sharply in relief. Suspended over the loggia of the annex at the extreme end were the Japanese and United States flags especially illuminated, while two powerful searchlights focused upon the two large beds of scarlet sage gave exquisite color to the scheme.



Photograph by Harrington

evening schools is \$5 per evening of two hours, and there are 120 sessions per year.

All applicants for positions in the high schools of New York City must pass the examinations for license to teach the certain subjects in which they propose to qualify and certain conditions are required before they are eligible for examination. Among these are the requirements that the applicant must be a citizen of the United States or must have made, within five years, a legal declaration of intention to become a citizen; and that no person is eligible for a license for service in the high schools who is not over 21 and less than 41 years of age. Readers of the BULLETIN who are interested may obtain detailed information as to scope of examinations and academic and professional qualifications by addressing the chairman, committee on high school licenses, board of examiners, 500 Park Avenue, New York City.

PROCEEDINGS OF THE FOURTH NATIONAL FOREIGN TRADE CONVENTION.

In an octavo volume of 600 pages, substantially bound in buckram, the National Foreign Trade Council has published the official proceedings of the Fourth National Foreign Trade Convention, held at Pittsburgh, Pa., January 25, 26, and 27, 1917. To each of the delegates who attended the convention a copy of the book has been furnished free, but in order that others interested in the development of the foreign trade of the United States may be able to obtain this valuable compendium of information a limited edition has been placed on sale, the price being \$2 per copy.

The book embodies a stenographic report of the proceedings, the discussions, the speeches at the several group sessions, the addresses at the banquet, and the papers prepared in advance by experts in the special lines dealt with. When it is remembered that this convention was the largest and most notable gathering of representative business men ever held in the United States in the interest of foreign trade, that every section of the country was ably represented, and that men of ripe experience in American commercial ventures in every market of the world were present, it will be seen that such a detailed record of the transactions of the several general meetings and the various group meetings is of inestimable value to all interested in the foreign commerce of the country.

Aside from the great value of the addresses of experts and national authorities in their respective lines, which are published practically in full, and the carefully prepared papers and reports submitted to the convention, the general and informal discussions relating to various problems of vital importance in foreign trade embody prac-

tical suggestions and advice of such character that this feature alone would make the book an invaluable aid to exporters and importers. Among the most interesting topics which became the subjects of such question and answer discussions were the following: "World trade conditions after the war," "America's position in world finance," "The Webb bill," "Suggested methods of cooperation in export trade," "Practical solutions of the problems confronting the smaller manufacturers entering foreign markets," "Utilization of the tariff to encourage American foreign trade and protect it from discrimination," "Explanations of the functions of the export merchant and commission houses," "Education for foreign trade," "Foreign credits," "National shipping policy and the development of an American merchant marine."

Among the reports of the discussions and addresses in the various group sessions the reader will find many that are rich in suggestion, especially in regard to such subjects as "Foreign credits," "Cooperation in foreign trade," "Problems of the smaller manufacturer and merchant," "Banking and investment," "Commercial education for foreign trade," and "Function of the export merchant and commission house."

Readers of the *BULLETIN* who desire to obtain copies of the book may do so by sending in their orders to Mr. O. K. Davis, Secretary National Foreign Trade Council, 1 Hanover Square, New York.



SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED TO SEPTEMBER 1, 1917.¹

Title.	Date.	Author.
ARGENTINA.		
Notes from Rosario.....	1917. June 21	Wilbert L. Bonney, consul, Rosario.
Dutiable weight of goods entering Argentina.....	July 3	W. Henry Robertson, consul general, Buenos Aires.
Message of President of Argentina to Congress.....	July 6	Do.
Complaint against Argentine meat-freezing companies.....	July 7	Do.
Agricultural notes.....	July 12	Wilbert L. Bonney, consul, Rosario.
Market for straw braid.....	July 13	Do.
BRAZIL.		
Machinery buying visit.....	June 18	J. B. Stewart, consul, Per- nambuco.
Market for motion-picture films.....	June 20	Chas. L. Hoover, consul, São Paulo.
Resources and industries of São Paulo.....	June 22	Do.
Bean crop in São Paulo.....	June 25	Do.
Annual report of São Paulo.....	June 27	Do.
Foreign commerce of Brazil for 1916.....	July 2	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Coffee crop in São Paulo.....	July 3	Chas. L. Hoover, consul, São Paulo.
Market for straw braid.....	July 13	Carl F. Deichman, consul, Santos.
Do.....	July 14	Samuel T. Lee, consul, Rio Grande do Sul.
Executive Decree No. 3296 of July 10, regarding radiotelegraphic and radiotelephonic service.	July 19	United States Embassy, Rio de Janeiro.
Establishment of new life insurance company.....	July 20	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Norwegian electric tramway in Brazil.....	do...	Do.
Traffic accidents in streets of Rio de Janeiro.....	July 21	Do.
Entry of salesmen's samples into Brazil.....	July 23	Do.
Japanese immigration to São Paulo.....	do...	Chas. L. Hoover, consul, São Paulo.
CHILE.		
Rise in the international exchange value of the Chilean paper peso.....	June 19	United States Embassy Santiago.
COLOMBIA.		
Opportunity for automobile trucks.....	July 10	Claude E. Guyant, consul, Barranquilla.
Opportunity for sale of wire screening.....	Aug. 2	Do.
COSTA RICA.		
Automobile road.....	Aug. 5	Albert B. Pullen, vice consul, Port Limón.
Pending concession for paper-making monopoly.....	Aug. 10	Benjamin F. Chase, consul, San José.
DOMINICAN REPUBLIC.		
Compilation of principal industries and products in consular districts.....	June 9	Clement S. Edwards, consul, Santo Domingo.
New coastwise service in the Republic.....	June 13	Arthur McLean, consul, Puerto Plata.
Banana plantation changes ownership.....	June 16	Do.
Dominican Central Railway raises freight rates.....	June 18	Do.
American bank opens branch in Puerto Plata.....	do...	Do.
Match exports to Haiti.....	June 20	Do.
Wireless station at Puerto Plata.....	June 22	Do.
French cable company.....	June 25	Do.
Opening for American firms in Dominican Republic.....	July 3	Do.
American shipping leads in foreign trade of Puerto Plata.....	do...	Do.
Exporters of Dominican products.....	July 5	Do.
Opening for agency for typewriters and supplies in the Domini- can Republic.....	July 16	Do.

¹ This does not represent a complete list of the reports made by the consular officers in Latin America, but merely those that are supplied to the Pan American Union as likely to be of service to this organization.

Reports received to September 1, 1917—Continued.

Title.	Date.	Author.
DOMINICAN REPUBLIC—continued.		
Public finances	1917, July 27	Arthur McLean, consul, Puerto Plata.
Banking facilities	Aug. 7	Do.
Yaque River bridge, Santiago de los Caballeros	do.	Do.
Reservoir for Santiago de los Caballeros	Aug. 8	Do.
ECUADOR.		
Project for a railway from Puerto Bolívar to Cuenca.....	July 2	Frederic W. Goding, consul general, Guayaquil.
HONDURAS.		
Annual report for 1916 of the Amapala district	June 30	Francis J. Dyer, consul, Te- gucigalpa.
Annual report on commerce and industries for 1916.....	July 16	Do.
Cigarette factory	July 30	Do.
Designs for blankets favored by Latin Americans.....	do.	Do.
Placer mining in Honduras	July 31	Do.
German forwarding agents curtail credits.....	Aug. 1	Do.
MEXICO.		
Improving commercial conditions in Piedras Negras consular district	May 24	William P. Blocker, vice consul, Piedras Negras.
Business district of Mazatlán	June 26	W. E. Chapman, consul, Mazatlán. Do.
Market in Mazatlán for fine combs, needles, hooks and eyes, buttons, and snap fasteners	do.	Thomas D. Bowman, consul, Frontera.
Annual report for Frontera District, 1916	July 10	W. E. Chapman, consul, Mazatlán.
Shrimp industry at Mazatlán	July 13	Do.
Shoemaking industry of Mazatlán	July 16	O. Gaylord Marsh, consul, Progreso.
Telephonic installations, Yucatan	July 17	William P. Blocker, vice consul, Piedras Negras.
Activities of the commercial club recently organized in Torreon	July 19	Wm. W. Canada, consul, Vera Cruz.
Declared export returns for the years 1913-1916	July 21	Do.
Receipts of Vera Cruz customhouse during July, 1917	Aug. 1	William P. Blocker, vice consul, Piedras Negras.
Possible sale of player pianos of American make	Aug. 3	A. G. Snyder, consul general, Panama.
Mining industry in Mexico	Aug. 14	G. C. Woodward, consul, Matamoros.
Patent and trade marks	Aug. 16	Do.
PANAMA.		
New abbatoir in Colon	July 17	Julius D. Dreher, consul, Colon.
Population of the Canal Zone	July 19	Do.
New Canal Zone census	July 21	A. G. Snyder, consul general, Panama.
Annual report on commerce and industries for Colon, 1916	July 23	Julius D. Dreher, consul, Colon.
Prospecting for oil in the Colon district	Aug. 3	Do.
Retiring Panamanian silver currency	Aug. 11	Do.
URUGUAY.		
Government encourages the use of fertilizers	June 22	William Dawson, jr., consul, Montevideo.
Increased railway freight rates	June 26	Do.
Construction work. Projected Mercado Central de Frutos	July 12	Do.
Japanese commerce with River Plate	July 16	Do.



INCREASE OF TRADE OF UNITED STATES WITH LATIN AMERICA :: ::

The following table shows by comparison the increase in trade between the United States and Latin America since the war began. Imports from Latin America show an increase since July 1, 1914, of 105 per cent and exports to Latin America, from the same date, an increase of 109 per cent.

Twelve months ending June 30.

	Imports.		Exports.		Total trade.	
	1914	1917	1914	1917	1914	1917
Mexico.....	\$92,690,566	\$112,138,677	\$33,748,793	\$78,659,893	\$131,439,359	\$190,798,570
Guatemala.....	4,078,612	10,057,330	3,601,813	5,391,348	7,680,425	15,448,678
Salvador.....	1,158,320	5,010,855	2,155,138	4,402,433	3,313,458	9,413,288
Honduras.....	3,130,328	4,687,155	4,873,512	5,697,620	8,003,840	10,384,775
Nicaragua.....	1,395,248	3,026,058	2,629,034	4,533,763	4,024,282	7,359,821
Costa Rica.....	3,570,364	5,620,145	3,501,386	3,914,244	7,071,750	9,534,389
Panama.....	4,509,719	7,585,331	22,678,234	28,788,916	27,187,953	36,374,247
Cuba.....	131,303,794	253,395,410	68,884,428	178,883,248	200,188,222	432,278,658
Dominican Republic.....	3,876,834	14,892,269	4,917,201	13,795,068	8,794,035	28,687,367
Haiti.....	691,807	4,234,531	5,540,705	7,359,391	6,232,512	11,593,922
 North American Republics.....	 246,405,592	 420,647,791	 157,530,244	 331,425,924	 403,935,836	 752,073,715
Argentina.....	45,123,988	152,612,411	45,179,089	82,382,884	90,303,077	234,995,295
Bolivia.....	70	44,161	1,145,555	2,900,545	1,145,625	2,944,706
Brazil.....	101,329,073	151,638,245	29,963,914	56,761,252	131,292,987	208,399,497
Chile.....	25,722,128	113,789,130	17,432,392	44,573,185	43,134,520	158,362,315
Colombia.....	16,051,120	28,965,920	6,786,153	14,906,786	22,837,273	43,872,706
Ecuador.....	3,595,456	10,667,783	2,967,759	6,079,806	6,563,215	16,747,679
Paraguay.....	64,651	66,003	173,191	174,793	237,842	240,796
Peru.....	12,175,723	36,379,016	7,141,252	18,885,174	19,316,975	55,264,190
Uruguay.....	7,715,144	30,406,532	5,641,266	14,292,135	13,356,410	44,698,667
Venezuela.....	9,763,069	15,018,567	5,401,386	12,885,222	15,164,455	27,903,789
 South American Republics.....	 221,540,422	 539,587,768	 121,831,957	 253,841,872	 343,372,379	 793,429,640
Total Latin America.....	467,916,014	960,235,559	279,362,201	585,207,796	747,308,215	1,545,503,355



ARGENTINE REPUBLIC

One of the Argentine industries which has greatly benefited from the suspended importation of European products during the last few years is the extraction of a GUM from a pitch-producing shrub found in great abundance in the Provinces of Santiago del Estero, Catamarca, Cordoba, and Tucuman and which is known to botanists as *cesalpinia praecox*. The pitch from this shrub is easily soluble in water, and one part of pitch to six of water gives a mucilage said to be of a better quality than that produced from the same proportions of water and imported gum arabic——The FIRST ARGENTINE NOTARIAL CONGRESS, which met in Buenos Aires from July 11 to 14 last, elected Ricardo M. Wright president; Manuel F. de Allende, first vice president, and José Insua, secretary. It was resolved to open the next Congress in Cordoba on July 9, 1918, or 1919, the year to be definitely determined by the notaries' organization in Cordoba——The following publications have recently been established in the Argentine Republic: "La Voz del Pueblo" (The Voice of the People), a weekly newspaper, at Exaltacion de la Cruz, Province of Buenos Aires; "El Pueblo" (The People), resumed publication at Corrientes; "La Voz del Obrero," (The Voice of the Workman), Posadas, Misiones Territory, the official organ of the Society of Workmen; "La Voz de Alcorta" (The Voice of Alcorta), Province of Santa Fe, a weekly newspaper; "Vida Nueva" (New Life), Tandil, Province of Buenos Aires; and "Las Nuevas Tendencias Económicas" (The New Economic Outlook), a commercial magazine published in Buenos Aires——Antonio S. Orozco has petitioned the Argentine Government for a concession to prospect for PETROLEUM by borings made in the shallow waters of the bottom of the sea adjoining the petroleum zone of the Territory of Chubut——Preliminary steps have been taken looking to the holding of a local or regional AGRICULTURAL CONGRESS, the first of its kind to be organized in the Republic, at Pampa——The Museum of the Rural Argentine Society has organized a competitive WHEAT EXHIBIT at Buenos Aires during the agricultural year 1917-18. Prizes consisting of diplomas, medals, and cash are to be distributed to owners of the best displays. In July, 1917, similar exhibits of maize and peanuts were displayed in the National Capital under the auspices of the Agricultural Museum. Some of the peanut growers report that they have obtained a net profit of more than 300 pesos currency (paper peso = \$0.425) per hectare (hectare = 2.47 acres)——During the first half of 1917 transactions in Government securities on the

STOCK EXCHANGE at Buenos Aires amounted to 82,593,340 pesos (peso = \$0.425), or an increase of 6,968,382 pesos over the aggregate transactions of the same period of 1916——The Military Aviation School of the Government of the Argentine Republic has been requested to cooperate in SURVEYING LAKE IBERA, a body of water in northern Argentina, believed to have an area of 1,000 square leagues. Much of the lake and of the country surrounding same are unexplored, and but little is definitely known concerning same——The balance sheet of the BANK OF THE ARGENTINE NATION for June, 1917, shows deposits amounting to nearly 7,000,000 pesos sealed gold (gold peso = \$0.9648) and 814,980,927 paper pesos (paper peso = \$0.425). The cash on hand is given in round numbers as 450,000,000 pesos, paper——The colonies of General Roca and Nueva España in the Rio Negro Valley and the Picaza and Locinda colonies contain about 20,000 hectares of IRRIGABLE LAND, 12,000 of which are now under irrigation, and works will soon be completed that will enable the remaining 8,000 to be irrigated——A decree has been issued permitting the importation of SUGAR, up to 50,000 tons, free of duty. It is estimated that the present cane crop of Argentina will produce sugar not exceeding 100,000 tons——During the first six months of the present year 32,966 cars entered the National Capital loaded with 549,401 tons of export freight. During the period referred to, the total RAILWAY TRAFFIC of the National Capital was conducted in 123,656 cars, containing 1,023,568 tons of freight and live stock. The principal exports from Buenos Aires from January to July, 1917, consisted of 235,256 metric tons of wheat, 182,522 tons of maize, and 35,324 tons of oats. The chief imports were 47,735 metric tons of coal and 31,817 tons of sand.



Don José Gutierrez Guerra was inaugurated President of Bolivia on August 15. According to newspaper reports his cabinet consists of the following members: Minister of foreign affairs, Julio Zammora; minister of finance, José Luis Tejeda; minister of government, Ricardo Mujia; minister of war, Gen. Andres Munoz; minister of justice, Claudio Sanjines. President Guerra succeeds Gen. Montes, who, in two different administrations, has presided over the destinies of the Republic.——AUTOMOBILE SERVICES were recently established between Atocha and La Quiaca, Argentina, connecting

railroads of the two countries. The rate for first-class passage is 50 bolivianos; second class, 25 bolivianos (1 boliviano is equivalent to about 39 cents United States money). Baggage is charged at the rate of 25 centavos per kilo. There will be two cars a week between the places named, and although the time of making the trip of about 130 miles can not here be stated exactly, it is known that the motor will cover the distance in far shorter time than the stage coach and horses, which in the past has consumed from two and one-half to three days. This new service will greatly quicken mail and passenger time between Bolivia and Argentina and incidentally from Peru to Argentina.——An important event in educational progress in Bolivia was the recent official opening of the new NORMAL INSTITUTE at La Paz. President Montes, members of the cabinet, and leading citizens were present, and the occasion marked an era in the facilities offered for higher education of teachers and others. *El Diario*, of La Paz, in commenting on the new institution, briefly reviews the advancement of education in Bolivia during the last 14 years, and the large increase in students found to-day in public, secondary and high schools throughout the country. Of notable importance also is the increasing number of women pursuing professional and business courses in Bolivian high schools and colleges, due in a large measure to the wise and progressive administration of President Montes, who recently retired from his second term as President of Bolivia.——The FIRST AUTOMOBILE to reach Tupiza, a town of 5,000 population in southern Bolivia, recently arrived there from Atocha, 65 miles distant. Tupiza is the objective point for the railroads building northward from Argentina and southward from Uyuni. Improvements in highways in various parts of Bolivia are making the motor car a practical method of travel beyond the railroad, and credit is given the motorist, Señor Juan Gould, for driving the first car between the places mentioned. The trip consumed only four hours, and indicates the feasibility of establishing regular automobile service over the route.——The Bolivian consul general in New York, Don Adolfo Ballivian, recently made public his ANNUAL REPORT in the form of a neatly printed booklet of 58 pages. This report contains a vast fund of information as to the increasing commerce between Bolivia and the United States, as well as much statistical matter on the same subject, together with other data that are timely and interesting. Some of the important subjects treated are as follows: The reelection of President Wilson, female suffrage, the declaration of war, the liberty bonds, aviation, food conservation, military conscription, shipbuilding, and other topics of world-wide interest.



BRAZIL

A bill has been submitted to Congress regulating the responsibility of RAILWAY TRACTION COMPANIES in cases of accidents to passengers. The culpability of the company is presumed in all cases unless it can be shown that the accident was due to unavoidable causes, or to the carelessness of the passenger without the concurrence of blame on the part of the company.—Dr. Nilo Peçanha, secretary of foreign affairs, has sent to the secretary of the treasury the proposed DEPARTMENTAL BUDGET for 1918. Dr. Peçanha suggests a reorganization of the consular service to meet the demands of the growing trade of the country.—In answer to a request from the Brazilian consul at Buffalo, the department of foreign affairs has applied to the department of agriculture of Brazil for data on the cultivation of the CASTOR OIL PLANT in Brazil, for samples of the seeds, and for the addresses of Brazilian firms interested in the exportation of the castor oil bean. The plant grows wild in Brazil, and it is hoped when brought under modern methods of cultivation it will be possible to supply the North American markets with castor oil.—Dr. Miguel Couto, president of the commission for the erection of a STATUE TO OSWALDO CRUZ, has received a letter from the Portuguese Embassy stating that the Government of Portugal will be glad to contribute toward the erection of a monument to the illustrious scientist who banished yellow fever from Rio de Janeiro.—Specimens of native coal form a permanent display in the National Museum. At present there is on exhibition there a ton of COAL from the São Jeronymo mine, State of Rio Grande do Sul. This coal, together with a sample from the Jacuhy beds, was recently sent the museum by Dr. Luiz Felippe Gonzaga, director of the geological survey. The exhibit now contains 23 briquets made from coal from the São Jeronymo and Tubarão mines, prepared by the American expert, Dr. I. C. White, when chief of the coal commission of Brazil. Analyses of these briquets show them to be identical with the briquets of second-grade Cardiff coal.—Count Affonso Celso, president of the historical and geographical society of Brazil, has appointed a committee to prepare an historical, geographic, and ETHNOGRAPHIC DICTIONARY of Brazil. The committee is composed of the following scientists and literary men of Brazil: Dr. Benjamin Franklin Ramiz Galvão, Admiral Antonio Coutinho Gomes Perreira, Justice Antonio Ferreira de Souza Pitanga, Dr. Antonio Olyntho dos Santos Pires, Dr. Aurelino Leal, Dr. Augusto Tavares de Lyra, Prof. Basilio de Magalhães, Dr. Edgard Roquette

Pinto, Dr. Laudelino Freire, Dr. Manoel Cicero Peregrino da Silva, and M. Fleiuss. Dr. Wenceslao Braz, President of the Republic, has expressed his hearty approval of the undertaking and proposes to give it his full support.—A native of Corytiba, capital of the State of Paraná, has discovered a method for the preparation of MATE TEA in a manner similar to that used in preparing China tea. By this method the fresh mate leaves roll themselves spontaneously and are held in shape by the gummy substance which exudes from their interior. Treated in this way the mate leaves retain their natural aroma and flavor and tea made therefrom is said to be delicious.—On June 22 last Rio de Janeiro was visited by the United States armored cruisers *Pittsburgh*, *Pueblo*, and *South Dakota*. These ships, together with the *Frederick*, which they found at anchor in the bay, form part of the Pacific Division of the American fleet under Admiral Caperton. The division was met outside the bay by vessels of the Brazilian navy composed of the dreadnaught *Minas Geraes* and the torpedo-boat destroyers *Amazonas* and *Matto Grosso* and escorted into the harbor. In addition to the official honors which were accorded the visitors, their stay in the port and city of Rio de Janeiro were marked by the extreme cordiality of the people, all classes of society vying with each other in expressing their sympathy for the Government and people of the United States.—The noted Brazilian publisher, Mr. Francisco Alves, recently deceased, left all his fortune to the BRAZILIAN ACADEMY OF LETTERS. He was a great supporter of private schools for the poor, conducted an international business, and had bookstores in Brazil, Portugal, and France.



The reported discovery of PETROLEUM in Chintagui has aroused the greatest interest in Chile, as this is a hitherto unknown product of that country. Congress passed a law on June 6, 1917, assuming government control of these deposits, and also of all others that may subsequently be discovered.—The Director of the Treasury has been authorized to sign the contract by which the Government purchases the "FERROCARRIL DEL LLANO DE MAIPO" from the railroad company of that name.—A new industry, the domestic production of OATMEAL, has been established by the Santa Rosa de Concepcion Mills. In view of the high price and scarcity of rice, this substitutive staple will doubtless be

in great demand. Hitherto all the oat meal consumed in this country has been imported from the United States, naturally at a greater expense to the consumer and also at the risk of not obtaining so fresh nor well preserved a product.——The report of the corporation operating the COPPER MINES at Chuquicamata shows that for the three months ending March 31 last the output was as follows: January, 7,756,737 pounds; February, 6,056,024 pounds; and March, 8,713,035 pounds, which is far in excess of the amount produced during the last quarter of 1916. The earnings of the company for the first three months of 1917 were at the rate of \$2.70 per share as compared with 51 cents a share for the year 1916. The cost of production was considerably decreased, as the report shows, having been about 9 cents per pound for the first quarter of the present year against 12 cents per pound for the corresponding time of 1916. As a whole, the report indicates a most active and satisfactory development of the properties.—— Railroad officials of the Arica-La Paz line have addressed a communication to the National Congress seeking permission to PURCHASE ROLLING STOCK for this road. At present a large amount of freight is offered but there are not sufficient cars and locomotives to handle it, as a considerable freight business develops in Bolivian as well as in Chilean territory and together congests traffic along the entire line of 278 miles. It is proposed to place as many orders in Chile as can be filled, but many supplies must come from abroad.—— The Fabrica de Sacos de Papel is the name of a new company which has been authorized to do business in Chile. This company with headquarters in Santiago will deal in and manufacture various grades of WRAPPING PAPER, BAGS, etc., and otherwise conduct a paper business. Approximately \$25,000 will be devoted to beginning the enterprise, which has a franchise of 30 years according to present authorization.——Don J. Guillermo Guerra, the well-known professor of international law, has contributed important matter to GEOGRAPHICAL KNOWLEDGE and science in his book entitled La Soberania Chilena en las Islas al sur del Canal de Beagle. The book contains 400 pages, is divided into three parts, was recently published in Santiago, and is highly praised in the pages of the Chilean press.——Reports show that the activities of the women of Chile in Red Cross work in recent months have been of great benefit to the poor and sick of Santiago and other places in the Republic.——On account of the lack of merchant vessels to transport Chilean products to world markets and return with manufactured supplies, four GOVERNMENT VESSELS have during the last year and a half carried to foreign shores about 3 per cent of the production of nitrate of northern Chile.



COLOMBIA

The municipal council of the city of Bogota has ordered the establishment of a MEDICAL INSPECTION SERVICE, in charge of three physicians, for the benefit of school children of the National Capital. Among the duties of this board of physicians is the making of a yearly examination of the pupils of the primary schools of Bogota, the keeping of a record of their findings, and the recommending of such hygienic measures for schools as may be deemed expedient.—A bill has been introduced into the National Congress with the object of reducing to a minimum the TRAFFIC IN ALCOHOL. The measure proposes to limit the establishment and operation of saloons according to population.—The Government of the Department of the Atlantic has purchased ground in the city of Barranquilla, on which to erect the new STATE HOUSE, the construction of which is planned to begin in the near future.—The centenary commission of the Battle of Boyaca has contracted with an Italian artist to erect several MONUMENTS of white Carrara marble in Martires Park and other portions of the city of Tunja. These monuments are in honor of the heroes of the War of Independence, and are to be unveiled on the centenary of the Battle of Boyaca.—On July 20 last a celebration was held at Palmira in the Cauca Valley in commemoration of the completion of the PACIFIC RAILWAY to that city. The railway station was opened to traffic, and an industrial, agricultural, and stock fair was inaugurated in honor of the occasion.—On July 20, 1917, date of the anniversary of national independence, the NATIONAL CONGRESS opened its regular session in Bogota.—Among the celebrations in honor of independence day on July 20 last was the official inauguration of the CENTRAL RAILWAY STATION at Sabana, the opening of the railway shops at that place, and the placing of two marble tablets, donated by the Colombian Society of Engineers, in the interior of the station.—The Conservative Party has selected for its candidate for the PRESIDENCY of the Republic for the constitutional period 1918-1922 Dr. Marco Fidel Suarez, now minister of foreign relations.—On July 24 last the Juridic Society of Bogota, in honor of the ninth anniversary of its establishment, inaugurated STUDENTS' DAY in Colombia (*Fiesta de los Estudiantes en Colombia*).—According to press reports a book entitled FOREIGN COMMERCE of the Republic of Colombia for 1915, containing 588 pages, has just been published, and a volume which treats of the live stock, agricultural, and railway industries of the country is now in press.—Independence day was celebrated at Manizales by the

opening of an INDUSTRIAL EXPOSITION and the inauguration of the first ten kilometers of the Caldas to Valle del Cauca, Railway.——Early in July, 1917, a Departmental PEDAGOGIC CONVENTION met at Santa Marta and adopted important measures tending to the development of public instruction in the Department of Magdalena.——A municipal census board has been established in Bogota, which proposes to make a PROPERTY CENSUS of the National Capital.



The MARKETING OF THE PRODUCTS of Costa Rica has assumed a graver character since the United States has requisitioned ships of commerce for the purposes of war, which naturally will cause the withdrawal of vessels of the United Fruit Co. and others which transport bananas, coffee, etc., to world markets. The manager of the steamship company mentioned has addressed a circular letter to the many banana growers along the line of the Southern Railway, telling them of the situation, and a number of conferences have been held to devise some mode of action to remedy what would be a serious condition to the people of eastern Costa Rica. Committees have been appointed to confer with officials of the United Fruit Co. and with those of the Elders and Fife Line, both companies in the past having been transporters of large quantities of bananas.——A movement has been inaugurated to establish in Costa Rica a branch of the international RED CROSS which is urgently needed to aid and serve the country in time of disaster. Dr. Quiros and Dr. Roberto Fonseca Calvo have looked favorably upon the plan, and together with other patriotic citizens, are forming an organization.——Costa Rican newspapers report the INCREASE OF TARIFF RATES on steamers of the Pacific Mail Line trading between San Francisco and Panama with calls at leading ports of Central America. The rates which became effective on August 1 provide for an increase of 50 per cent over rates prevailing in normal times, a fact that will work material injury to freight and passenger traffic between Costa Rica and North American ports. Such staple products as potatoes, which formerly paid \$6 per ton via Panama to New York are, however, raised to \$9 per ton by that route.——The CULTIVATION OF RICE on a much larger scale than in the past is the purpose of a new enterprise which is being inaugurated, the contract having been entered into between the minister of fomento and Sr. Manuel Sing very recently. Sr. Sing, who is a native of Costa Rica, will raise the necessary capital and a company with headquarters in San Jose will be organized to

establish the enterprise. Among the stipulations of the contract are that laborers must be imported from the Sandwich Islands or China, as it is improbable that a sufficient number could be secured in Costa Rica. All kinds of implements for the cultivation of rice, cane, and other agricultural products will have free entry into the country.——The war department has prepared a new set of regulations for the government and improvement of the MILITARY ESTABLISHMENT of the country, which is to be submitted to the Constitutional Congress at the present session. Before the new regulations are presented to the legislative body, however, a commission will carefully examine and pass on their merits. The commission, which has already begun its labors, has as members a number of the most experienced men of Costa Rica, and they are expected to modernize the army in various ways.——A new regulation governing the SALE OF MILK in the city of San Jose has been promulgated by the chief sanitary official of that place. Much more attention is to be given to dairies and the handling of milk, and a number of requirements are enumerated in a special notification sent to all dealers. Sanitary inspection of herds of cows as well as the product will be more rigidly enforced and it is hoped to improve the health conditions of the capital, especially that of young children.——A BOY SCOUT command of San Jose has recently made an extensive journey on foot to Esparta, where they were cordially welcomed by the municipal authorities and a band of music. The scout movement is proving attractive to many of the youth of the land who are greatly benefitted by joining the organization.



At Nueva Gerona, Isle of Pines, the agent for a well-known automobile manufactured in the United States recently completed his two years of business, during which time he sold 41 cars. There are now on the island 250 MOTOR CARS of all makes and the outlook for additional machines is stated as promising. The above cars were all new ones, but he also disposed of a number of second-hand automobiles which are finding a good market on the island.——Habana with its growing population needs a larger supply of water for domestic purposes, and to this end Senores del Portal, Geston, and Cuervo presented a plan to the Municipal Council for an additional supply. The plan contemplates the building of A NEW AQUEDUCT to tap such districts that have a scarcity of water. The project as outlined by the promoters will have the careful consideration of members of the council.——Col. Rosendo Collazo, of the Cuban

army, recently designated TO VISIT THE UNITED STATES for the purpose of inspecting and studying the great concentration soldier camps, has already arrived in the latter country and taken up his duties. At Plattsburg, the first camp visited, the Cuban official was received with extreme cordiality by the officials and everything done to aid him in his mission.—Thirty-three young Cubans have responded to the proposal of Senator Manuel Coronado that Cuba send to France a number of well trained AVIATORS. The senator's plan as originally outlined called for only a squadron of about 20 men, so the liberal response of almost double the desired number is significant of the interest in the proposition.—Dr. Juan Montalvo has succeeded Col. Aurelio Hevia as secretary of government, and on being interviewed by a number of newspaper men the NEW SECRETARY outlined plans for reorganizing and improving the department over which he will preside.—The Cuban-American Petroleum Co. has received its machinery at Habana and the same has been transported to the well-digging area in the vicinity of the capital. A large force of workmen are now engaged in erecting the machinery and active DRILLING FOR OIL will commence at once. Supt. Cowell is in charge of operations.—

Owing to the INCREASE OF FREIGHT and passenger traffic between Habana and New Orleans the United Fruit Co. will place another vessel in service on this run, thereby making two ships a week available from port to port. The additional steamers will alternate weekly from New Orleans, and sail weekly for Puerto Barrios from Habana, not calling at the latter port on the return trip.—

Dr. Luis Azcarate y Fesser has been named by President Menocal as SECRETARY OF JUSTICE, succeeding Dr. de la Guardia. Dr. Azcarate is a lawyer by profession and at one time was acting mayor of Havana during the administration of President Palma and is regarded as an able official.—

Plans are being perfected whereby the ESPERANTO LANGUAGE is to be extensively taught in Habana during the approaching school year. The Centro de Dependientes, the great clerks organization, is interested in the project and many clerks it is believed will take up the study of the new language either at the club rooms or elsewhere.—

Drs. Solano Ramos and Otto Bluhme, of the medical laboratories in Habana, have offered a free medical scholarship in the University of Habana. The award will be made to the student receiving the highest ratings in a competitive examination which will be open to worthy young men in all parts of Cuba.—SELLING FRUIT ON TREES is becoming a favorable method of disposing of crops by a number of growers in the Isle of Pines. This year Santa Fe grove owners have disposed of their fruit in this manner and newspaper reports indicate that the method is gradually gaining favor.

DOMINICAN REPUBLIC

AN ART EXHIBITION was recently held in Santo Domingo at which were shown a large variety of drawings, paintings, and sculpture work, all executed by students during the school year. Many of the paintings were copies of famous works of masters, of colonial scenes, and other interesting subjects, and the exhibition was visited by a large number of people during the eight days it remained open to the public. Don Abelardo Rodriguez U., the director and instructor, received many congratulations on his success as a teacher of the fine arts.——Prof. A. Fiallo Cabral has been selected to write and edit sketches of the life and work of prominent people of the Republic whose biographies are to appear in the forthcoming issue of the UNIVERSAL ENCYCLOPEDIA.——The MATCH FACTORY established several years ago by the Dominican firm of Ariza & Co., at Puerto Plata, is now supplying all of the matches needed for home use and is beginning to make shipments to other parts of the West Indies. They are made from local woods by modern machinery from Sweden, while the chemicals were imported from the United States. A force of 90 persons is employed at the factory—50 men and 40 boys and women.——The military authorities have completed a WIRELESS STATION at Puerto Plata, which makes five stations constructed to date with plans under way for still another at Monte Cristi. All of the above wireless stations are used exclusively for official messages.——In the region of Monte Plata there are 172 plantations with 377,725 trees producing CACAO. In the comun of San Cristobal there are 79 plantations with 129,000 trees. The value of exports of this product for 1916 is given at \$5,958,669, which shows a gradual increase in the revenue derived from cacao. With more scientific methods, according to statements in newspapers of the Republic, the production of cacao could be vastly increased.——The provisions of the POSTAL CONVENTION recently entered into between the Dominican Republic and the United States went into effect on June 15, 1917. Two cents an ounce is the rate on first-class matter from the United States, and from the Dominican Republic to the former the convention fixes the rate at two centavos for 15 grams. Letters unpaid or having insufficient postage will be despatched to destination, but double the amount of deficient postage will be charged to the addressees. Each country shall retain the postage collected on such letters.——A detailed statement of the operations of the department of PUBLIC WORKS of the Republic for the month of June, 1917, is made public in the columns of *Listin Diario*, Santo

Domingo City, under date of July 25. The total receipts are shown to be \$45,120.78; total expenses \$35,038.15.—The residents of the town of La Romana are now enjoying ELECTRIC LIGHTS, the service having been inaugurated on the 15th of July. The occasion was made one of interest by a large gathering of people from the surrounding country and a number of addresses by officials of the Government.—In the six months ending June 30 there were exported from the port of Sanchez 136,000 sacks of CACAO for the United States. The largest shipment in one month was in January, when the total number of sacks was 28,245.



ECUADOR

Dr. José Dario Moral, of the FACULTY OF MEDICINE at Guayaquil, after visiting and making exhaustive medical observations in Peru, Chile, Argentina, Uruguay, and Brazil, has sailed for New York to continue his observations in the United States. Dr. Moral is one of Ecuador's leading medical authorities and has been greatly interested in the numerous medical institutions he has visited on his lengthy tour. In commenting to newspaper men on the reason of his investigations he expressed the views that Ecuador in improving the health conditions of her leading port, Guayaquil, was anxious to note what other cities of the world had done along similar lines, and instead of employing foreign health experts preferred to send her own physicians to gather information and acquire knowledge in various countries. After visiting the United States it is probable that Dr. Moral will, if conditions permit, go to Europe and investigate sanitary methods, diseases, etc., in various war zones. Returning to his native land, he will carry with him much useful medical and scientific knowledge gathered in foreign lands.—In order to have available for promoting public instruction a larger amount of funds the President of the Republic has issued a decree imposing a TAX ON TOBACCO.—The paving of a number of the principal streets of Guayaquil, together with other important improvements, have facilitated the use of MOTOR CARS in Ecuador's chief port, and the American consul general there suggests that manufacturers of cars pay more attention to the increasing market. A number of local firms would accept the agency for United States cars.—In order to meet a growing traffic FIVE STEAMSHIPS have been placed in service between San Francisco and Guayaquil by a company known as the South Pacific Line.

These vessels range in tonnage from 2,500 to 6,000 and will be operated under the Norwegian flag, with headquarters in San Francisco. The two larger vessels bear the name of *Romulus* and *Regulus*, respectively, and the smaller ones are called *Governor Forbes*, *Baja California*, and the *Sinnaloa*. It is probable that stops will be made at intermediate ports en route, thereby offering additional facilities for trading for hundreds of miles along the Pacific coast.—

A SCHOOL CENSUS of the city of Guayaquil shows that at present there are 7,167 males and 7,142 females between the ages of 5 and 12 years. In the Province of Guayas, in which the city is situated, there are 16,163 males and 14,398 females. Comment has been made on the almost equal number of males and females in the city.—The Colombian commission which, together with Ecuadorian officials, will delineate the BOUNDARY BETWEEN ECUADOR AND COLOMBIA has arrived in Guayaquil, having traveled southward from Panama on the *Governor Forbes*, one of the new line of steamers plying to Ecuador from San Francisco. The commission is composed of the following persons: Engineers Enrique Rodriguez, Julio G. Nieto, Tomas Aparicio, A. R. Cardenas, and Gustavo Garavito. They were met in Guayaquil by local officials and shortly thereafter proceeded by special train to Quito, where the negotiations will begin.—The minister of foreign relations has presented to the nation a report on the questions with Peru, in which the opinion is expressed that differences may be harmoniously solved. *El Ecuatoriano*, of Guayaquil, under date of July 31, contains a column of extracts from the minister's report.



GUATEMALA

MICA DEVELOPMENT in Guatemala, owing to the unusual demand for this product during recent years, has been active and a number of small workings have been attempted. The lack of laborers and explosives, however, have checked operations of this nature. The principal shipper of mica to-day is the American firm of Sarecky & Chellis, and the freight rate from the mines to the port of Barrios, on the Caribbean, is \$24 per ton, which makes, with the ocean transportation charge to New York, a total of \$44 per ton on the raw product. Exports of this mineral from Guatemala during the last two years aggregate about 12,000 pounds. The United States consul in Guatemala City supplies an interesting report on mica, which was published in Commerce Reports under date of August 23, this year.—“Banarina” is the name of the NEW FOOD FLOUR

which is being manufactured in Guatemala from the banana. The progressive agriculturist, Don Joaquin Maldonado, has fitted up a small factory at his plantation, San Isidro, San Francisco Zapotitlan, and is supplying the flour to the public. Those who have used the new product speak well of its taste and food value, and the demand is creating a new field of enterprise as well as supplying the local market with a staple commodity.—A correspondent of the Diario de Centro-America, Guatemala City, writing from Coatepeque, states that farmers are planting much larger crops than in normal years, and that in many cases double the average area is being brought under cultivation. Products of general consumption are scarce and command high prices.—C. E. Roberts has been named as VICE CONSUL of Guatemala in San Francisco, Cal., and David M. de Castro has been selected for a similar post at St. Thomas, Virgin Islands.—A review of the progress of the RAILWAYS OF GUATEMALA for the fiscal year ending in June shows considerable activity. New rails have been laid on the Western Railway from San Antonio to Suchitepequez, and this makes it possible to use heavier locomotives and longer trains. Improvements have been completed on the Central, Varapaz, and Urban Railways; new surveys and different routes have been made and investigated, a number of bridges constructed, and roadbeds made more secure along water-courses. Petroleum tanks were constructed at Puerto Barrios, Morales, Zacapa, and El Rancho, and petroleum has been substituted for coal on the Guatemalan Railroad. Direct train service has been established between the CAPITAL AND AYUTLA. The latter place is the junction point of the Guatemalan Railways and the Mexican line, and when through train service is resumed on the roads of the latter country from the border of the United States there will be practically an all-rail route through Mexico into Guatemala City.—The INTERNATIONAL BOARD OF HEALTH of the Rockefeller Foundation in Guatemala has submitted the report of its work for the first half of the current year. It is most encouraging to note that of the 17,035 persons treated by the board during this time for "anemia tropical" 8,604 have been completely cured. The Chief Executive and the Government of Guatemala are seconding in every way possible the humanitarian mission of this branch of the Rockefeller Foundation.—The XESUC BRIDGE over the Samala River, which has been in course of construction for the past six months by the municipality of San Francisco, Province of Totonicapan, has been completed and was opened to the public on July 1.—By decree of July 9, 1917, the President of the Republic authorized the municipality of the Capital to expend \$15,000 American gold in the PURCHASE OF CORN and other staples to be sold at the prices fixed by the Government.



HAITI

The Secretary of State, Edmund Dupuy, has been appointed SECRETARY OF STATE OF FOREIGN RELATIONS AND OF JUSTICE.—The Secretary of State, Furey Chatelain, has been appointed SECRETARY OF STATE OF AGRICULTURE AND OF PUBLIC WORKS.—ROAD BUILDING in Haiti continues to improve. There are 30 miles of good automobile roads in the plains northward from Port au Prince, and about 30 miles of the highway extending southward are in equally good condition. The mountain roads are also being put in condition for motor traffic.—THE HAITIAN AMERICAN SUGAR CO. is expending a large sum of money in the clearing of land and in the erection of buildings.—The AGRICULTURAL PRODUCTION of Haiti is steadily increasing. Large tracts of land to the north and south of Port au Prince have been cleared and corn, potatoes, bananas, and other crops are being raised for local consumption. It is hoped that the production will soon increase enough to warrant the exportation of potatoes and other vegetables to the United States.—The directors of the HOSPITAL at Port au Prince have recently spent nearly \$700 in furnishing and equipping in the most modern way the operating room of the institution.—The Electric Company is rapidly carrying on its work of REPLACING THE WOODEN TELEGRAPH POLES with iron ones, which have proven to be much less dangerous and also present a better appearance.—The INSPECTOR OF SCHOOLS of Port au Prince has addressed a circular to the directors of the different educational establishments asking for the following data: The age of each teacher employed; the date of their admission into the faculty; the occupation of each before beginning to teach; the university degrees acquired.—The PANAMA STEAMSHIP CO. has inaugurated its service to Haiti. Since July 18, 1917, its steamers have been stopping at St. Marc on both the upward and the downward trip. As these steamers take only three or four days for the voyage to New York, this is a vast improvement over the Dutch steamers which take from 10 to 12 days. The transportation charges of the Panama Steamship Co. are also lower. Both of these considerations should stimulate the commerce with the United States. The National Railroad of Haiti has arranged its schedule so that an extra train leaves Port au Prince for St. Marc on the date fixed for the arrival or the departure of any of the steamers.

HONDURAS

The United States consul stationed in Tegucigalpa reports that a CIGARETTE FACTORY is soon to start operations in the capital city under the name of Cia Tabacalera Hondurena. Machinery has been purchased in New York and flavorings, essences, etc., come from that city. Kalamazoo is to supply the wrappers. Sr. T. Castillo Coro is president of the company and Pablo E. Locano is managing director. The members of the company own their tobacco plantations and raise a fine grade of the plant, although the Honduran product is too strong for many tastes. In order to weaken the strength the company will wash the tobacco, utilizing the washing for sheep and cattle dip. Considering the demand and the facilities at the disposal of the new company and the fact that Honduras exacts no internal revenue on tobacco, the outlook seems especially good. In the past large quantities of cigarettes have been imported, and these imports were subject to a duty.——An article appearing in *El Nuevo Tiempo*, of Tegucigalpa, under date of July 13, contains statements relative to the importance of AGRICULTURAL AND COMMERCIAL TRAINING in Honduras. Such studies have been neglected, the writer maintains, and the time is now opportune for more young men to take up agricultural science and accountancy. The article is interesting and throws much light upon latent possibilities of Honduras and offers suggestions for young men considering their future careers.——The firm of Lem Cooper & Bros. is constructing for the Government a small COASTING VESSEL which will transport mail and other cargo along the Honduran coast. The boat will be 70 feet long and will be propelled by a 70-horsepower gasoline motor. The work of construction will be at Roatan; native woods will be used, and in form the little vessel will not be unlike the *Santa Maria*, one of the famous caravels of Columbus. Many modern conveniences will be installed for the use of passenger trade, which it is believed will gradually grow.——A Government embargo prohibits the exportation of cereals from Honduras, and for the present at least the chief exports will be BANANAS AND CATTLE. A Federal concession has been granted for the manufacture of flour from the banana in the Puerto Cortes district. Overripe and other rejected bananas will be used for the purpose. In commenting on food matters in Honduras, the United States consul at the above-mentioned port says that cooked green bananas are extensively used by natives as a substitute for potatoes, but as the green banana ripens so rapidly it is hardly possible for this product to be exported.

The cultivation of bananas by individual growers is steadily declining, and large corporations with ample capital are engaging in such enterprises, having under cultivation many thousands of acres of land. On the other hand, the small individual owners are beginning to raise cattle on the lands formerly used for banana production.—

A writer in *El Nuevo Tiempo*, of Tegucigalpa, under date of July 16 gives much interesting data relative to the possibilities of mining enterprises in Honduras. It is shown that now is a most opportune time to start such work, that Honduras has VAST DEPOSITS OF MINERALS, and that with a reasonable amount of capital such enterprises could be made to pay a handsome dividend. Statistical evidence is given in support of the statements contained in the article.



A contract has been entered into between the minister of hacienda and Sr. Leopold H. Aceves for the exploitation of WOODS, CHICLE, AND OTHER PRODUCTS of the territory of Quintana Roo. The area of the concession is approximately 145,000 hectares. This territory forms the eastern part of the peninsula of Yucatan and, although rich in many natural products, has never been largely exploited. With the increased demand for all kinds of hardwoods and the extensive coast line of the concession Sr. Aceves believes the time is ripe for the development of an extensive business. Modern machinery and methods will be employed in connection with the enterprise.— Under direction of the officials of the secretaria de industria y comercio (department of industry and commerce) a movement has been launched with the object of developing Mexican COMMERCE IN FOREIGN COUNTRIES. One of the features of the propaganda is a circular letter sent to producers and business men all over the country telling them of the plan and asking cooperation in providing samples of things suitable for foreign markets. Permanent exhibitions of these products will be made in Mexican consulates in different parts of the world, thus calling attention to the natural resources of the country and otherwise encouraging the sale of Mexican products.— Sr. José María Robles has invented a machine for the utilization of the FIBER OF THE MAGUEY PLANT. The new machine has attracted the attention of officials of the department of agriculture and test trials are to be made in the presence of the director general of agriculture, Don José Duvalon. Importance attaches to the invention owing to the large amount of Mexico's fiber

production and associated industries that seem likely to be benefited by the use of the invention.—The Mexican consul in Buffalo, N. Y., has called attention to the increasing demand in the United States for skins and hides and suggests that Mexico might develop a far greater trade in such products, especially now that steamship facilities are lacking between the United States and South America and other countries that in normal times export vast quantities. The abnormal demand, the proximity of Mexico, and the rail and ship connections all figure in the possibilities of a larger trade.—The RAILROAD SHOPS at Orizaba and Apizaco are unusually rushed with the work of repairing rolling stock of the Mexican Railway. Recent months show a notable increase in freight and passenger traffic on this line and all trains are running with greater regularity than for some time. A portion of this road, between Orizaba and Vera Cruz, which has been in bad order has been repaired and placed in active service. Not quite half of the locomotives on this road are oil burners, but during 1916 they consumed 364,798 cubic meters of petroleum.—In the State of Pueblo, one of the leading manufacturing regions of the Republic, a CONGRESS OF WORKING MEN has been called. This meeting has been authorized by President Carranza and called by the governor, for the purpose of discussing measures for the improvement of laboring conditions in general in Mexico.—New regulations governing the TAX ON PETROLEUM production and its derivatives have been promulgated. According to the new schedule, fuel petroleum shall pay 10 per cent per net ton ad valorem; the value for fuel oil of 0.91 density is fixed at \$9.50. A value of \$7.50 per ton is fixed for all petroleum whose density may be greater than 0.97. An English translation of the original decree is published in The Mexican Review, Washington, June, 1917.



NICARAGUA

The CLEARANCE LAW now in force in Nicaragua exempts vessels flying the flags of any of the five Republics of Central America, exclusively engaged in the coastwise trade of the Republic of Nicaragua and of traffic between Central America and Panama ports, from port dues and clearance and official fees, provided said vessels carry the national mails free of charge.—THE AMERICAN of Bluefields states that a board of public-spirited citizens of the Atlantic Coast has adopted a plan whereby not less than eight PUPILS FROM THE SCHOOLS of that section of Nicaragua are to be main-

tained and educated in the different colleges of the interior out of funds collected in Bluefields, Pearl City, Rama, Prinsapolka, the Pis Pis District, and Cape Gracias a Dios. These students are to be selected from those best qualified out of the schools of the places mentioned.—El Heraldo (The Herald) of Managua has published the report of the American agricultural experts in charge of the NATIONAL SCHOOL OF AGRICULTURE at Chinandega showing the results obtained in Nicaragua by using modern methods of cultivating Indian corn, beans, and alfalfa, and has sent a sample of the latter crop to the President of the Republic. Press reports are to the effect that the Chief Executive intends to establish in the near future an agricultural school and meteorological station at Bluefields under the direction of an expert corps of instructors.—Under date of July 23, 1917, the collector general of customs has issued a circular which provides that WINES AND LIQUORS imported on and after July 1, 1917, shall pay customs duties in accordance with the law of June 20, 1917. All former laws and customs decisions that affect the appraisements and duties on wines and liquors are abolished by the law referred to except those that are based on treaties or contracts.—In June last the Bonanza GOLD MINE in the Atlantic coast district of Nicaragua produced 900 ounces of gold, all of which was forwarded to New Orleans.—The American of Bluefields states that advices from Managua indicate that attention is being centered on Nicaragua as a possible producer of REFRIGERATED BEEF and cattle on the hoof for export to the United States and to other countries. The raising and slaughtering of cattle can be carried on in Nicaragua with profit, since expense of caring for herds is comparatively light. There is plenty of running water and available pasture lands, and the climate of certain regions of the country is adapted to cattle raising. Worn-out banana lands could be utilized for this purpose, and this is now being done by one large corporation.—The Coconut Plantation Co., whose property is situated on the coast near Monkey Point, has installed a new dryer, and employs three automobiles in transporting COCONUTS along the beach where the machines operate over a distance of about 32 miles.



The Association of Commerce has taken the initiative for establishing a COMMERCIAL MUSEUM in Panama City. It is planned to have on exhibition permanently the various agricultural and other

products grown in the Republic, so that the thousands of travelers who pass through Panama may secure glimpses of what the country contributes to the world. A nucleus for the museum will be the many products composing the Panama exhibit at the San Francisco Exposition, which are now undisplayed. —— Extensive investigations and explorations by American geologists are now in progress in the Republic, mainly inquiring into the possibilities of PETROLEUM PRODUCTION. The scientists were sent to Panama by a leading company of the United States, and if oil is found in sufficient quantities exploitation on a large scale is likely to follow. —— BUILDING CONSTRUCTION in Colon is especially notable and many of the new structures are three-story concrete buildings of especially pleasing architecture. The city, which during canal construction days was the scene of giant activities, is to-day enjoying a greater business era. Every business house on Front Street from the railway station toward Cristobal is said to be occupied and at more than the former rental price. Authorities of the canal are building an entirely new suburb for their employees, called New Cristobal, and there are many other indications of permanent growth. —— LAND PRICES at Nueva Limon are advancing, and plots of ground that formerly sold at \$3 per hectare have about doubled in value. Small planters are engaging in the production of food supplies and, coupled with the easy reach of the railroad and markets at Panama and Colon, are making their work count. Nueva Limon, situated on Gatun Lake, to-day has a population of 200 people, while other settlements in the vicinity are larger and have constructed churches, stores, and other public buildings. Gradually man is reaching farther and farther into the virgin forests that fringe the canal and is making mother earth produce food products more abundantly than ever before. —— Large QUANTITIES OF SEEDS ordered by the Department of Public Works of Panama have been received from the United States and will be dispatched to the governors of the various Provinces for general distribution among the planters. At the same time the seeds are being distributed, printed and verbal instructions are given the farmers, so that good results may be expected. The following are some of the seeds that were ordered: Beans, cabbage, turnips, lettuce, corn, tomatoes, carrots, celery, cantaloupe, watermelon, pumpkin, parsley, eggplant, etc. —— CHICKEN FARMING in the Canal Zone is to be developed on a large scale and 80,000 chickens have already arrived to form the nucleus of the new industry. Most of the stock has been secured at various Colombian cities and towns, so that it is probable no difficulty will be encountered in acclimating the fowls; \$24,000 is being spent in starting the chicken business, and it is hoped that eventually there will be sufficient fowls to meet the local demand along the route of the canal. The general manager

of the farms is Mr. R. K. Morris, who has had ample experience in raising chickens to assure success of the undertaking. The meat of the coconut will be used extensively as food for the chickens.—The big cattle ship *Caribbean*, which has been in use for some time TRANSPORTING CATTLE from Colombian and Central American ports to Panama for local slaughter, is being enlarged. Hereafter the ship will have capacity for 600 head of cattle, 2,000 chickens, and 100 hogs.



PARAGUAY

Much interest is expressed by the business men of Asuncion in the PROPOSED NEW BUILDING to house the chamber of commerce. The present building used by this organization has been found inadequate and its arrangement out of date, so in making plans for the new edifice due care is being exercised in order to make it complete, adequate, and modern. In addition to large administrative halls and conference rooms there will be a number of offices suitable for lawyers, correspondents, and other business purposes which will annually provide a large rental income.—In order to assist in the DEVELOPMENT OF AGRICULTURE the Banco Agricola, of Asuncion, has decided to import certain agricultural implements to be used especially in the production of sugar. The bank will also import new varieties of corn, alfalfa, millet, cotton, and other seeds for the assistance of the small planter. The implements will be rented and seeds allotted to those planters who are prepared to make use of them, and the movement it is believed will be of great assistance in encouraging the planting of larger and more varied crops.—*El Diario*, of Asuncion, under date of July 3 published an enlarged edition as an ANNIVERSARY NUMBER of the independence of the United States. The front page contained pictures of George Washington, President Woodrow Wilson, and the United States Minister to Paraguay, Daniel F. Mooney. Another page carried illustrations of the leading European rulers.—A NEW HOMESTEAD LAW has been passed by the National Congress, the provisions of which give to the immigrant a better opportunity and otherwise encourage settlers to enter the Republic. The various articles are printed in detail in *El Liberal*, of Asuncion, under date of June 29, and a writer in the same journal makes important suggestions relative to the lands of the small farmer and the necessity for encouraging agricultural production.—Between the first of January and the latter part of March is the time European COM-

MERCIAL SALESMEN select for visiting Paraguay, and the goods they sell begin to arrive in the latter country in October and November. The Paraguayan merchants consider United States goods of higher price than those originating in Europe, but North American traveling salesmen returning from the inland Republic state that their sales are larger than on previous trips. One house dealing in photographic supplies and allied lines has introduced goods made in the United States and the proprietor stated to the salesman that hereafter he proposes to handle only North American goods.—

The Revista del Comercio, the organ of the Chamber of Commerce of Asuncion, in its issue of July 1 says that a concession for a NEW FRIGORIFICO (slaughterhouse and meat-packing plant) has been granted and that work is soon to commence on the plant, which is to be established at San Antonio. In the same paper, under the caption of frozen-meat industry, there are published interesting facts relating to this industry in various parts of the world. South America, it is stated, has 12 great plants.



PERU

Civil Engineers Don Enrique Cater and Don German Morales, who have been making studies for the PROPOSED HIGHWAY between Cerro de Pasco and Huancayo, have made public the plans and other details of the route. The distance to be covered is approximately 65 miles, the width of the roadway will be about 20 feet, and the estimated time to construct the road will be two years. This road will be one of the most important in the Republic and will make it possible for a large amount of traffic to pass to and from the interior and lower region of Peru lying east of the Andes. Under date of July 8 last, La Prensa, of Lima, publishes a map showing the route selected and other details.—The average monthly PRODUCTION OF COPPER on the Cerro de Pasco properties during the first four months of the present year is given at 5,883,500 pounds. In May and June the production was not up to the average, the reason being the lack of laborers and other matters which caused less activity.—The high price of raw cotton has caused Peruvian planters to give more attention to producing larger crops. In order that the usual acreage of FOOD CROPS may be planted the Government has decreed that the area devoted to such production must be equal to that planted in 1916. By thus checking in advance any tendency to lessen the food crops of Peru for the coming year it is thought that ample supplies will be raised.—A campaign against the use of ALCOHOLIC

BEVERAGES will soon be launched in Peru. This move, which at first will be confined to teaching in the public schools the disastrous effects of alcoholism, was a subject that came before the Sixth Pan American Medical Congress in 1913. As a result, the Peruvian Congress passed a law making the teaching of such matters compulsory in primary and high schools, and the President of the Republic has issued a decree accordingly. By beginning such instruction in schools the authorities believe that great good can be accomplished and the youth of the country taught many lessons that will last through life.——Peruvian papers devote a large amount of space to the visit of BOY SCOUTS from Bolivia, who were recently received and entertained in Lima and other Peruvian cities. The Bolivian boys were returning the visit of Peruvian scouts made to La Paz some months ago, and both events are regarded as of more than passing interest, since they tend to bring about a better understanding among the coming men of the two Republics. In going and returning the Bolivians were welcomed and entertained at leading cities and towns en route. The round trip made by rail and sea covers approximately 2,000 miles.——A new ARBITRATION TREATY between Peru and Uruguay has been drawn and its articles made public in Lima. The treaty will be submitted to the Congresses of the two nations and it is hoped that exchanges of ratifications will not be delayed beyond a reasonable time. In its issue of July 12, La Cronica, of Lima, carries the several articles and stipulations.——The Argentine training ship PRESIDENTE SARMIENTO, after a week's stay in the port of Callao, sailed for Guatemala. While in Peruvian waters the officers and cadets were shown many honors and special entertainments were provided for them. The ship will pass through the Panama Canal and visit various ports of Central America, Mexico, etc., before sailing for Argentina.



The National Legislative Assembly of the Republic of Salvador has authorized the Chief Executive to expend 500,000 pesos (peso = \$0.586) in the reconstruction and repair of PUBLIC BUILDINGS damaged by earthquake on June 7, 1917.——On June 4 last the Congress of Salvador declared Gen. José Miguel Batres, Dr. Tomas García Palomo, and Ramon Garcia Gonzalez elected, respectively, first, second, and third DESIGNATES TO THE PRESIDENCY of the Republic.——In 1915 the Department of Santa Ana produced 252,000 hectoliters of INDIAN CORN, or at the rate of 1.76 hectoliters per inhabitant. During the same period there were harvested

in the Department of Ahuachapam 66,000 hectoliters, or at the rate of 0.83 hectoliter per inhabitant.—An Executive decree of June 22, 1917, established the maximum prices that may be charged in the Republic for CONSTRUCTION TIMBERS. Persons who violate the provisions of the decree by selling at higher prices than the maximum established by law are subject to fines varying from 25 to 200 pesos (peso = \$0.586).—Much interest has been manifested recently in Salvador concerning the CULTIVATION OF WHEAT in the Republic. Dr. Alejandro Hernández, an authority on the raising of cereals, recently lectured in the National University in the City of San Salvador on fifteen phases of wheat cultivation and preparation for consumption and for the market, in which the growth of this grain was discussed in detail as was also the turning of same into flour and other alimentary substances. The expert referred to believes that wheat can be commercially grown in Salvador at a handsome profit, and that steps should now be taken, owing to the shortage of the wheat crop in the principal grain-producing nations of the world, to materially increase the cultivation of this cereal on the table-lands and mountain slopes of the grain belt of the Republic.—An IRON MINE has been discovered at Yagautique, Department of San Miguel. It is proposed to analyze samples of the ore and to take steps to determine the extent and value of the deposits.—The BALSAM of Salvador, formerly known as balsam of Peru, is one of the most valuable products of the southeastern part of the Republic. Capt. Adrian V. Parada, a Salvadorian agriculturist and mechanician, recently invented a machine to extract and prepare balsam for the market in a more simple and economical manner than has obtained heretofore. The machine referred to is to be exhibited at La Libertad and other agricultural fairs, and it is believed will come into general use in the balsam zone of the Republic, inasmuch as it will enable this article to be manufactured more rapidly and at less expense than by the old methods.—The San Miguel HOSPITAL of San Salvador, an institution maintained by the State for the care of orphans, has three departments, namely, one for male children, another for female children, and a third for infants of both sexes.



URUGUAY

The department of foreign relations of the Government of Uruguay has furnished the MONTHLY BULLETIN with the following data:

The Government attaches no official importance to the sinking of THE SHIP GORITZIA off the coast of England, which was formerly

owned by the firm of Dodero Hermanos, of Montevideo, and which was reported as flying the Uruguayan flag. If the vessel flew the flag of Uruguay it did so without authority or through error. The *Gorizia* was formerly navigated under Canadian license and then bore the name of *Gleumont*; later it operated under the United States flag, which country at the time was neutral. The latter fact combined with the vessel's former nationality, it seems, was not a cause for the withholding of certain papers of provisional registration by the Uruguayan consul general in New York, who fixed a period of one year for the ship to arrive in Uruguay, and there secure final and definite authority to navigate under the laws of that country. As the owners of the *Gorizia* wished the vessel to proceed to Havre, where a return cargo had previously been contracted for, permission was sought and secured for such voyage. But the vessel was sold on the 4th of April of the present year to the French firm of Neuflige & Co., by which owners it was transferred to the French Government. Thus, owing to the various circumstances in connection with the ownership and operation of said vessel, the loss in no manner concerns the Government of Uruguay.—Leaders of the political party in power and those of the National Party have reached an agreement whereby the bases of CONSTITUTIONAL REFORM are definitely fixed. The form of government which delegates the executive power to the President of the Republic and to a national assembly (*Concejo Nacional Administracion*) is somewhat modified. Among the provisions are that the president of the Republic shall be elected directly by the people through a simple plurality by means of the system of double simultaneous vote and considering the Republic for this purpose as a single constituency. The term of the presidential office shall be four years, the incumbent is not eligible for immediate reelection, and a period of eight years must elapse before he may again become a candidate for the office. In case the presidency becomes vacant the general assembly shall be convened and elect a person to temporarily fill the position or until the next election of the *Concejo*, when a new president of the Republic will also be chosen. The president will have more or less the same duties that now devolve upon him. He will nominate the ministers of foreign relations, war and marine, and interior, and the various employees of those offices. The National *Concejo de Administracion* will be composed of nine members, elected by the people according to the system of national voting (doble voto simultaneo). Other constitutional reforms provide that all forms of religious beliefs are free and tolerated in the Republic; there is no State religion, but it is recognized that the Catholic Church and all edifices that have been or are partially constructed with public funds belong to that denomination, excepting asylums, hospitals, prisons, and other

public establishments. Political officers and military officers on active duty are not permitted to take part in political clubs or become members of such organizations under penalty of dismissal. They must refrain from taking any part in political matters save that of voting. Citizens of Uruguay are divided into two classes, native and naturalized, the former being persons who have been born in any part of the Republic, or who have had one parent a citizen of Uruguay. Foreigners who have resided four years in Uruguay, or who for service in the army or navy have received the thanks of the NATIONAL CONGRESS for conspicuous or meritorious services have the right to become citizens of the Republic.



The Government has published the contract entered into with the Caribbean Coal Co., with headquarters in Maracaibo, for the construction of certain RAILROADS in the State of Zulia. The first line will start from the port of Castilletes or in that vicinity and run 95 miles to the mining concessions held by the company at Santa Rosa, El Filon, etc. The company is also authorized to build a railroad and operate same from a point on the above-mentioned line, called Cano Hondo, to the River Limon near Carrasquero. In the Gaceta Oficial, of Caracas, under date of July 3 the various articles of the contract are given, together with much other detail relating to the concession.—Senorita VIRGINIA PEREIRA ALVAREZ, a young lady of Venezuela who has been pursuing a course of study in Philadelphia, recently won the Mesner prize offered by a woman's college in that city for the best all-round physical development. There were 10 contestants for this honor, which was easily carried off by the young Venezuelan, who made a percentage of 99.9 out of a possible 100. The nearest to this high mark was made by other contestants who reached only 95 points. The young prize winner was the recipient of many congratulations by members of the faculty and friends.—A company has been formed to extract and sell TANNIC ACID from the dividivi plant. The headquarters will be at Porlamar, Margarita Island, which lies about 50 miles off the coast of Venezuela. The promoters of this new enterprise are Senores Salinas and Modiano, who will devote considerable capital to the industry which they believe has a very bright outlook. The dividivi plant is said to contain 80 per cent acid suitable for tanning; 16 per cent glucose, and 4 per cent of various other properties. The plant grows wild on the island above mentioned and in

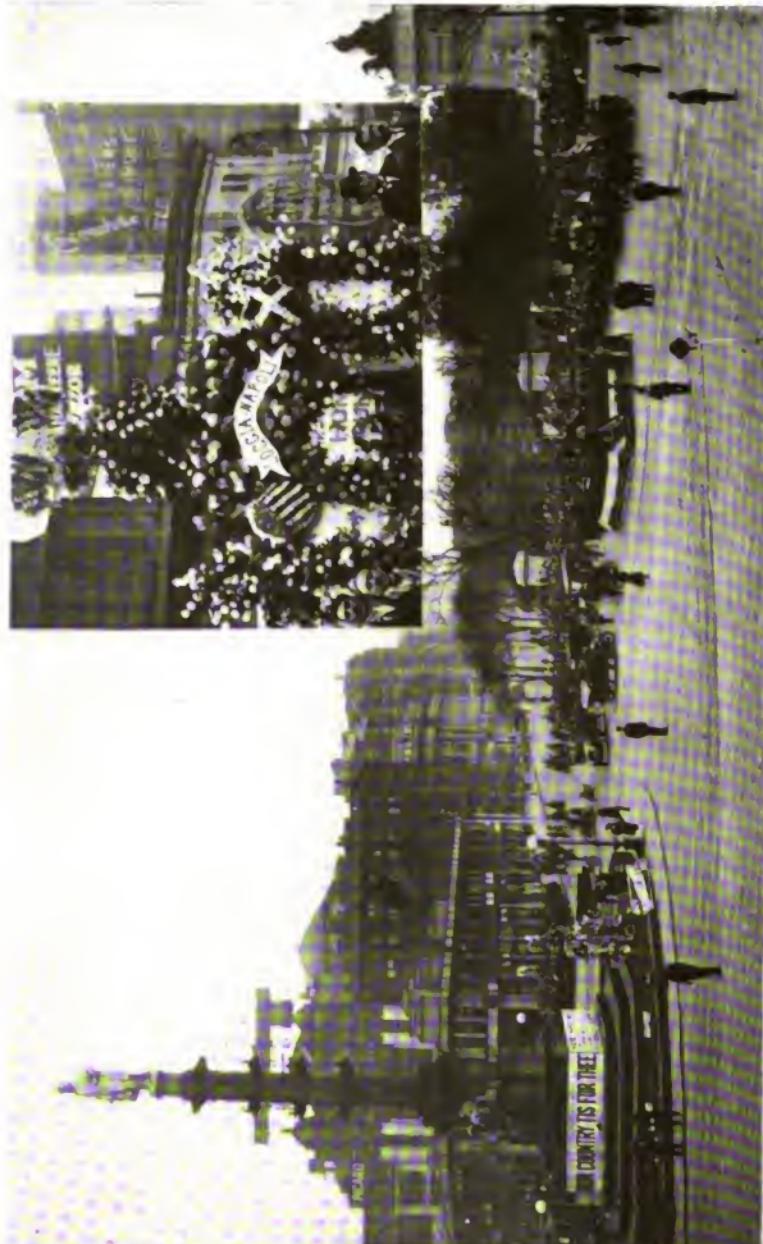
various regions of Venezuela.—The production of coffee in Venezuela, harvested from last November to June, is from 15 to 20 per cent lower than the normal crop. In the six months period ending in June there were shipped from Puerto Cabello 54,500 bags to France, 43,800 bags to Spain, 31,800 to the United States, 5,150 to England, and smaller quantities to other countries. The coffee trees, however, are in an excellent condition and the outlook for the next season is good.—An ELECTRIC LIGHT plant is to be installed at Calabozo, a town of 4,000 population. The concession is held by Senores Luis Corrales and Tomas Sarmiento.—Hereafter all CANNED GOODS imported into Venezuela will be subject to lower duties, in some cases the reduction is 40 per cent on former tariff rates. Canned fish, for example, will pay duty falling under the second class, plus 50 per cent surtax.—A PAPER FACTORY erected several years ago at Maracay, which has been closed for some months, has started operations and will make paper from certain grades of fibers plentiful in Venezuela. The home plant, it is hoped, will provide a relief from the present enormous prices asked for imported papers, by manufacturing and selling a paper which, it is believed, will answer many local purposes.—Sr. Caracciolo R. Paredes has been granted a Government concession for constructing and operating TELEPHONE LINES in the States of Yaracuy, Carabobo, etc. Lines will be built to Valencia from Nirgua, and other towns of that section will be linked by phone wires.



CELEBRATING COLUMBUS DAY.

Copyright by Underwood & Underwood, N. Y.

The 12th day of October, the anniversary of the discovery of America by Christopher Columbus, has been made a legal holiday by most of the States of the United States and by many of the Latin American Republics. In practically all of the cities of the United States the occasion is marked by parades and public exercises commemorating this great event in the history of the world. Especially in our cities as New York, Philadelphia, Boston, Washington, etc., are the celebrations on a large scale. This year in New York City a great parade was staged and the Columbus Monument, shown in the left of the above illustration, was the scene of a great gathering, where patriotic addresses by famous speakers aroused the enthusiasm of the multitude. One of the features of the celebration was the huge parade from Washington Square up Fifth Avenue and along Fifty-ninth Street to Columbus Circle, where, after the decoration of the statue with wreaths of beautiful flowers, some of which are shown in the insert in the picture, and after the conclusion of addresses by Mayor Mitchel and other officials, the marchers dispersed. The great Catholic organization, the Knights of Columbus, was especially active in organizing special celebrations in New York, Boston, Washington, and other cities.





VOL. XLV.

OCTOBER, 1917.

No. 4

THE GROWING SPIRIT OF PAN AMERICANISM :: ::

PAN AMERICANISM is taking on a more tangible and concrete form as time goes on. From the days of the great South American emancipator, Simon Bolivar, whose vision projected far into the future and who was among the first to attempt to teach the peoples of the Western World that their hopes, their aims, their eventual destinies were interwoven regardless of differences of nationality or of origin, down to the time of that far-seeing statesman of North America, James G. Blaine, the idea of Pan American relations and the solidarity of interests of all the American Republics seemed more or less vague and indefinite. Occasionally some one with vision arose and gave expression to thoughts that now seem to have been prophetic, but at the time he was generally regarded as an idealist and a dreamer. Among these was Henry Clay, who saw the future interdependence of the new-born nations, and he championed the cause of Pan Americanism even before the patriots of South America had proved victorious in their struggles for liberty and independence. As early as 1816, while the struggle for freedom was at its height in several of the Spanish colonies, Clay, who was at the time Speaker of the House of Representatives, opposed the reduction of certain taxes which had been levied by the United States Government as a result of the War of 1812, on the ground that "the United States might have openly to take part with the patriots of South America." In 1818, in urging the United States to give aid to struggling fellow-Americans in the Southern Hemisphere, he made use of the following words:

In the establishment of the independence of Spanish America the United States have the deepest interest. I have no hesitation in asserting my firm belief that there is no question in the foreign policy of this country which has ever arisen, or which I can conceive as ever occurring, in the decision of which we have had or can have so

Courtesy of *The Americas*, New York.

THE PRESIDENT OF BRAZIL VISITING ADMIRAL CAVERTON ON BOARD THE FLAGSHIP.

The American squadron, under command of Admiral Caperton, which is engaged in patrolling the Atlantic coast, visited Rio de Janeiro during the latter part of June and the first week in July. President Venceslau Brás received the admiral and his officers at the presidential palace and subsequently paid the admiral the compliment of a return visit. President Brás may be seen in the left center of the photograph, standing at the right side of Admiral Caperton, who is in uniform and in the center of the group. On the right of President Brás (the third from the left end of the row) stands Hon. Edwin V. Morgan, American ambassador to Brazil, while immediately at Admiral Caperton's left is Admiral Alexandrino de Alencar, minister of the navy.





Courtesy of The Americas, New York.

MARINES AND SAILORS OF THE AMERICAN SQUADRON PARADING THE STREETS OF RIO.

The climax of the celebrations organized for the entertainment of Admiral Caperton's squadron was reached on the 4th of July, when a great parade was organized, in which the sailors and soldiers of four great nations participated. Contingents of marines and sailors from British and French war vessels that happened to be in the harbor on that day joined the Brazilian and American troops and marines in celebrating the national holiday of the United States. The upper picture shows the American sailors and marines marching along the Avenida Rio Branco; the lower, as they are passing the reviewing stand of the President of Brazil.

much at stake. This interest concerns our politics, our commerce, our navigation. There can not be a doubt that Spanish America, once independent, whatever may be the form of the governments established in its several parts, these governments will be animated by an American feeling and guided by an American policy. They will obey the laws of the New World, of which they will compose a part.

In the light of recent events it would almost seem that Clay's giant intellect was endowed with the power of pre-vision. Clay used the word "American" in its broad sense of "Pan American," and "Spanish America" in the sense of all of Latin America, although Brazil at that time was the most important part of the "United Kingdom of Portugal, Brazil, and Algarves," and was the refuge of Dom João VI. When Clay said "these governments will be animated by an American feeling and guided by an American policy," were not his words prophetic? A casual reading of the newspapers of Rio de Janeiro, Montevideo, and Buenos Aires, covering the period of practically the month of July, 1917, will answer the question. Their columns are filled with the accounts of the enthusiastic receptions accorded to the squadron of United States war vessels under the command of Admiral Caperton as it paid its friendly visits to the cities named. It was no manufactured welcome urged by governmental authorities alone that greeted the Admiral and his men. There was nothing perfunctory about it. The high officials of the three Republics left nothing undone to make the stay of the representatives of the United States Navy a delightful one socially, but it was the splendid enthusiasm of the masses of the people that showed that in each case it was the nation itself that stood behind its representative officials and indorsed the spirit of that hearty welcome.

That practically all of the Republics of the Americas are in sympathy with the people of the United States in their great resolve to make the world safe for democracy is an indisputable fact proved by the attitude of the press of Latin America generally. The opportunity, however, to demonstrate that sympathy in a striking and practical manner has come first to the three nations, Brazil, Uruguay, and Argentina, in this formal visit of Admiral Caperton's fleet. That these countries arose to the occasion and showed the world how they stood is a most gratifying vindication of those idealists who have for years fostered the true spirit of Pan Americanism.

Upon the cordial invitation of the Brazilian Government the fleet remained for two weeks in the harbor of Rio de Janeiro. Brazil had already revoked its declaration of neutrality and had severed diplomatic relations with Germany. It was standing side by side with the United States, practically as an ally, so the splendid welcome accorded by the Government and people of Rio de Janeiro, while extremely gratifying was not very surprising. Brazilian hospitality is proverbial, and the stranger from North America has always found a cordial welcome in every part of the great Republic. So the de-



Courtesy of The Americas, New York

ADMIRAL CAPERTON AND HIS MEN BEING ENTERTAINED IN RIO DE JANEIRO.

Upper picture: Admiral Caperton and some of his officers enjoying the wonderful view of Rio de Janeiro from the top of Corcovado, a mountain which rises to a height of 2,300 feet and is located in the limits of the city itself. Lower picture: Ball given in honor of Admiral Caperton and his officers. From the time of the fleet's entrance into the beautiful bay to the time of its departure the city of Rio de Janeiro was in holiday attire. Governmental and other public buildings, clubs, hotels, and private residences were decked in the flags and intertwined colors of Brazil and the United States, while receptions, balls, sightseeing, and other forms of entertainment made the stay of the visitors a continuous round of pleasure.



Courtesy of The Americas, New York.

MONTEVIDEO WELCOMES THE UNITED STATES SQUADRON.

As to the reception of Admiral Caperton's fleet in Montevideo, The Times of that city commented as follows: "Rarely in its history, and perhaps never, has this city witnessed such a scene of unbounded popular enthusiasm as was displayed yesterday over the arrival of the American squadron under command of Admiral Caperton. Differences of class, politics, and nationality all disappeared in the desire to pay a fitting welcome to the gallant men who come in representation of the great democratic nation that has recently thrown its weight into the struggle for the freedom of the world from militarist despotism. * * * It would be difficult to estimate the thousands that congregated on the mole, joined in the manifestation, and lined the streets and balconies en route." The upper picture shows a portion of the crowd on the dock waiting to welcome the squadron; the lower, a part of the crowd in the plaza fronting the American Embassy.

lightful reception of the admiral, his officers, and men, was but another incident which proved the genuineness of the long-standing friendship between the United States and Brazil. From the time of the fleet's entrance into the beautiful Bay of Guanabara to the day of its departure the city of Rio de Janeiro was in holiday attire. Governmental and other public buildings, clubs, hotels, and private residences were decked in the flags and intertwined colors of Brazil and the United States, while receptions, balls, sight-seeing, and other forms of entertainment made the stay of the visitors a continuous round of pleasure. The climax of the celebrations, however, came on the 4th of July, the national holiday of the visiting Americans, when a great parade was organized in which the sailors and soldiers of four great nations participated. It so happened that several British and French war vessels were in the harbor on that day, and each contributed as large a contingent of its marines as possible to add to this tribute to the United States. For the first time in its history Rio de Janeiro saw the armed forces of three nations parading peacefully down the entire length of its beautiful Avenida Rio Branco in company with troops and marines of the Brazilian Army and Navy, each division flying the colors of its own country, and all uniting in paying a friendly tribute to the great nation whose tremendous power is about to be exerted in behalf of the principles of liberty and democracy for which all are now fighting. A general holiday had been declared, the governmental departments had been closed, business organizations had suspended operations, and the day was made a memorable one in the history of the city. Men, women, and children crowded the great avenue, and as the contingents from the various countries marched by the enthusiasm of the people found vent in continuous cheering and waving of flags. The Brazilian nation was showing where it stood in regard to the war between autoocracy and democracy, and it was "animated by an American feeling and guided by an American policy."

The next port to be visited by Admiral Caperton's squadron, for the time being engaged in patrolling the Atlantic coast of the Americas, was Montevideo. But Uruguay is neutral in the great European war, and the interesting questions arose, Will Uruguay treat the United States squadron as belligerents? Will Admiral Caperton be given the usual notice that he must leave within the prescribed time allotted to a war vessel in a neutral port? And this is the way the President and cabinet of Uruguay met the situation: The cabinet met, had a short discussion, and passed the following resolutions, subsequently published as a presidential decree:

Whereas the Uruguayan Government has proclaimed, in various communications, the principle of American solidarity as determining its international policy, in the understanding that all offense against the rights of any country of the continent should be regarded as such by all, and provoke from them a common and uniform action; and



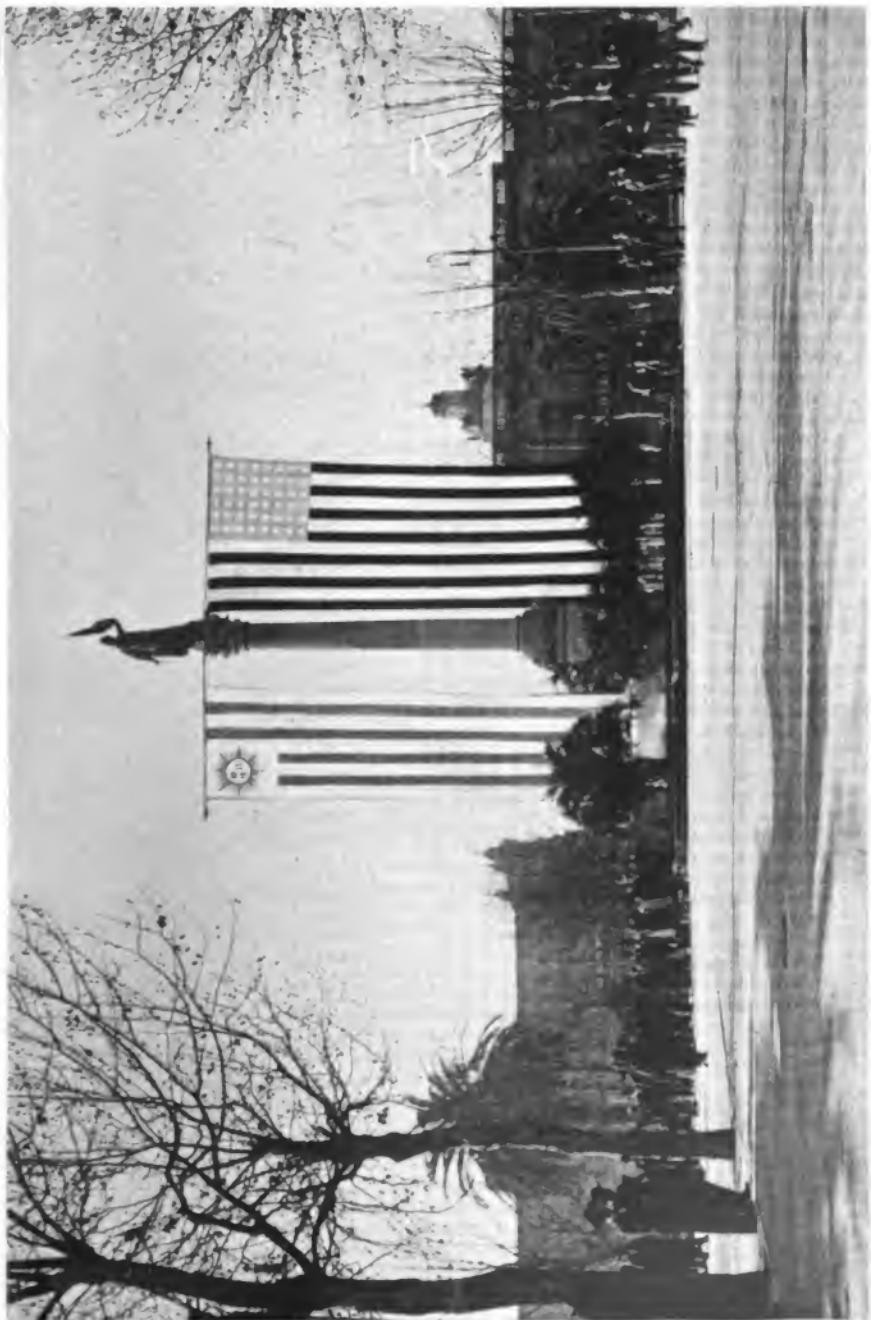
Courtesy of The Americas, New York.

ADMIRAL CAPERTON AND OFFICERS OF THE FLEET AS OFFICIAL GUESTS AT THE MONTEVIDEO RACE TRACK.

Upper picture: Arrival of the official guests at the famous race course of Montevideo. Lower picture: President Viera and his guest, Admiral Caperton, watching an interesting horse race.

Courtesy of The Americas, New York.
MONTEVIDEO'S DECORATION OF HER STATUE OF LIBERTY.

When Admiral Cafferton and his men arrived at Montevideo they found the city a mass of decorations, public and private buildings being ornamented by the intermingled colors of Uruguay and the United States. One of the unique and most appropriate of these evidences of the cordial friendship between the two countries was in the Plaza Libertad, where the famous "Statue of Liberty" was decorated by having draped from the top of its high pedestal a huge Uruguayan national flag on one side and the "Stars and Stripes" of the United States, of the same size, on the other.



that, in the hope of seeing realized an agreement to this effect between the American nations, which would make possible the practical and efficient application of these ideals, the Government has adopted an expectant attitude as regards its own action, though in every case expressing its sympathy with those countries of the continent that have found it necessary to abandon their neutrality.

Whereas until this agreement shall be realized, Uruguay can not, without acting contrary to her sentiments and convictions, treat as belligerents those American countries, which, in their defense of their rights, find themselves involved in an intercontinental war; and whereas this view is shared by the Senate, the President of the Republic in cabinet council, resolves:

1st. To declare that no American country which, in defense of its rights, is in a state of war with nations of other continents, shall be treated as a belligerent.

2d. To suspend the operation of all dispositions contrary to the present resolution.

If that isn't good Pan Americanism, if that isn't being "animated by an American feeling and guided by an American policy," what is? The President and Cabinet struck the keynote of the true Pan American policy, and that the people enthusiastically indorsed their action is shown by the following excerpt from an account of the reception of the United States squadron, an account which appeared in the Montevideo Times of July 11, 1917:

Rarely indeed in its history, and perhaps never, has this city witnessed such a scene of unbounded popular enthusiasm as was displayed yesterday over the arrival of the American squadron under command of Admiral Caperton. Differences of class, politics, and nationality all disappeared in the desire to pay a fitting welcome to the gallant men who come in representation of the great democratic nation that has recently thrown its weight into the struggle for the freedom of the world from militarist despotism. If there were any dissidents, they were exceedingly few and had the grace to keep themselves well in the background, for to all appearances the population of the city turned out en masse, man, woman, and child, to do honor to the occasion, and to show on what side their sympathies lay. It would be difficult to estimate the thousands that congregated on the mole, joined in the manifestation, and lined the streets and balconies en route. We repeat, that never before has the city witnessed such a scene.

As a further indication of this Pan American feeling in the Republic of Uruguay may be cited the hearty indorsement of the action of the President and his cabinet by the leading newspapers of Montevideo. The following excerpt from a vigorous and striking editorial published in El Dia of June 14, 1917, will serve to show the attitude of the press generally:

Brazil has declared that it can not remain neutral in face of the belligerence of the United States, as such neutrality would imply an equality of situation between those who are defending and those who are ignoring law; and, above all, because it would imply the breakdown of a high policy of continental solidarity, implicitly established in virtue of the affinity of ideals and of higher interests that should govern the common action of American peoples. The attitude of Brazil is perfectly logical within the strict notion of this policy, inspired and characterized by the invariable devotion to the most glorious traditions of rectitude and justice. Since the United States represents, interprets, and defends the American ideal in these exceptional historical circumstances, can there be American countries which, in the name of a formal neutrality, sacrifice their political thought, their democratic aspirations, and their



Courtesy of Caras y Caretas, Buenos Aires.

CROWDS GATHERED TO WITNESS THE ARRIVAL OF THE UNITED STATES FLEET AT BUENOS AIRES, ARGENTINA.

The various banners represent the different clubs, societies, and organizations which turned out en masse to form a marching escort to the visitors from the fleet.

Courtesy of Mundo Argentino, Buenos Aires.

VISIT OF THE UNITED STATES SQUADRON TO BUENOS AIRES.

When the United States squadron arrived at Buenos Aires they found the people of the Argentine capital as enthusiastic and cordial in their welcome as had been those of Rio de Janeiro and Montevideo, while the officials of the government extended every possible courtesy and left nothing undone to make the stay of Admiral Caperton and his men a delightful one. The above illustration is a reproduction of a photograph taken just before President Irigoyen of Argentina received the American ambassador to Argentina at the presidential palace in Buenos Aires. Standing near the center, the tallest man in the group, is Hon. Frederic J. Stillson, American ambassador to Argentina; on his left, holding his hands before him, is Dr. Honorio Pueyrredon, minister of foreign affairs, while on the far right (the tall gentleman with heavy black mustache) is Dr. Alvarez de Toledo, minister of the navy; at Dr. Pueyrredon's left stands Admiral Caperton, next to him being Admiral Rafael Blanco with Vice Admiral Attilio S. Basilar, both of the Argentine Navy. In the left of the picture and at Dr. Toledo's right is Capt. Luke McNamee, chief of staff to Admiral Caperton; and Capt. Alfred T. Smith, military attaché to the American embassy, stands at the end of the row, immediately behind Dr. Pueyrredon and Admiral Caperton are Señor Attilio D. Barillari and Adolfo A. de Urquiza, first and second introduces of embassies, respectively.



international principles, in order to regard the United States as a belligerent whose vessels, in American waters, should be submitted to the limitations and impediments of conventions which, for its enemies, are merely "scraps of paper" whenever it is convenient to them to disregard or tear them up? No. For us the United States can not be belligerent. We for the United States can not be neutrals. A complete identity of aspirations and of ideas unites us to that great nation, now as before; and perhaps more than ever now that she has defined more categorically, by word and deed, the moral grandeur of her democratic spirit and the exemplary abnegation characteristic of her collective virtues. Therefore, for us who, as Americans, feel and think in harmony with the heart and head of that great people, its squadron, belligerent or not, in those distant places where the future of the world is being debated, can be nothing less than the dignified representation of its magnificent ideals of peace with liberty. America is one. Everything unites it; nothing separates it.

From Montevideo the squadron, upon invitation of the Argentine Government, went to Buenos Aires. While the governmental authorities thought it best not to give verbal expression to their sympathies, their actions in according every courtesy possible and in their constant exertions to make the stay of the visitors a delightful one spoke for them. But especially was the sentiment of the people of Argentina in evidence. No governmental mandate had gone forth that the public generally should observe a holiday or that elaborate decorations of buildings with flags and bunting should mark the occasion. But Buenos Aires has a population of about a million and three-fourths, and when that population decides to celebrate it does it, and that not in any halfway manner. So when Admiral Caperton and his men landed on the docks a dense mass of cheering men, women, and children met them. As they proceeded along the streets they found the whole city a mass of decorations, the flags of Argentina and the United States fluttering together from every governmental and public building, from hotels, theaters, clubs, and from thousands of private residences. Business was suspended, and Buenos Aires turned out grandly to show their Yankee friends that they were welcome. The spirit of Pan Americanism was abroad, and hundreds of thousands voiced the fact in bursts of enthusiastic cheers. In commenting on the occasion the *Times of Argentina*, an English publication of Buenos Aires, said:

The reception accorded to the North American squadron (cruisers *Pittsburgh*, *Puebla*, *South Dakota*, and *Frederick*) under the command of Vice Admiral Caperton, has afforded clear proof of the sympathy of Argentina with the allied cause. Although the official element has done its best to make the visit of the North Americans enjoyable, it has been the popular manifestations, the street scenes, the private efforts, that have completely proved the feeling of Argentines in the great world struggle which is slowly but surely nearing these shores. The whole city has been decorated, although this has not been effected through official demand. We have rarely seen so much bunting, and we have been surprised at the number of United States flags. The Yankee community in this city is not very large, but the Stars and Stripes have flown from almost every large building in town. The huge crowds which invaded the purlieus of the docks on the date of the arrival of these cruisers, the enthusiasm which then prevailed in spite of the delay in arrival owing to the fall of the tide,

Courtesy of Mundo Argentino, Buenos Aires.

THE UNITED STATES NAVAL OFFICERS AND SAILORS PAY FITTING TRIBUTE TO WASHINGTON AND SAN MARTIN AT BUENOS AIRES.

One of the most interesting and impressive of the many ceremonies incident to the visit of the fleet to Argentina was the placing of handsome floral wreaths at the statues of George Washington, the father of American Independence, and of San Martin, one of South America's great liberators. In the presence of hundreds of onlookers and with the sailors of the United States and Argentine fleets drawn up in line, the floral tributes were placed at the bases of the monuments in homage to two historic characters. On both occasions Admiral Caperton delivered appropriate addresses. The United States ambassador, Mr. Slimson, is seen in both pictures with the officers of the fleet.



must have gone to the heart of the United States sailors. Then the scene in the great Colon Theater that night, when the fashionable audience rose and cheered the officers of the ships for several minutes, will not leave the memory of those who were present very easily.

To enumerate the festivities, the receptions, balls, dinners, and other forms of entertainments which made the stay of the North Americans so pleasant would require more than the allotted space. Whole pages of the leading papers of the Argentine capital were devoted to description of the varied forms of entertainment, and the cordiality of the friendship evinced by the people as a whole made the visitors realize that here, too, was a nation "animated by an American feeling and guided by an American policy." Verily was Henry Clay a prophet!

C. E. A.

MONTEVIDEO, THE CITY OF ROSES¹

MON-TAY-VEE-DAY'-O is about the way the Uruguayans pronounce the name of their capital; not Mon-te-vid'-e-o, as many even fairly well-informed persons in the United States persist in pronouncing it. There are two versions of the story usually told to account for the name, and neither seems entirely satisfactory. In both it is stated that the name originated in an expression used by a pilot or lookout on one of the ships of Magellan's fleet as it sailed into the mouth of the Rio de la Plata on January 15, 1520. The first object to attract the attention of this gentleman was the "cerro" or hill, and he is said to have exclaimed, "*Montem video!*" But why exclaim in Latin? Magellan himself was Portuguese, although at the time in the service of Spain, while the men under him were doubtless both Spanish and Portuguese. Latin was not in general use among adventurous sailors, pilots, or even masters of vessels in those days any more than it is now. And even if the lookout had known Latin, it would have been more natural for him to have expressed surprise or announced an important discovery in his own tongue. Some one evidently thought of this view of the case; so the second version has it that the lookout was Portuguese, and upon seeing the hill called out, "*Monte vide eu!*" Now that happens not to be Portuguese as it is spoken at present. The present tense of the verb *vêr* (to see) is *vejo*, the past (or preterite) *vi*; but it is possible that the obsolete Spanish form of

¹ By Edward Albes, of Pan American Union staff.

THE MONTEVIDEO OF THE PAST.

View of the harbor and city of Montevideo during the first part of the nineteenth century.



MONTEVIDEO IN 1861.



the past tense, *vide*, which is occasionally used even now in some parts of Spanish America, may also have been in use in the Portuguese of the sixteenth century. In that case the expression *monte vide* might have been used, the pronoun *eu* being added for emphasis. However, whether derived directly or indirectly from the Latin, the name means either "I see" or "I saw—a mountain;" so we may let it go at that. It's a fine, sonorous name that was given the city in its infancy, and the valor, energy, and progressiveness of its people have made it famous the world over.

Although the city of Montevideo was permanently founded by the Spaniards, the Portuguese were directly responsible for the selection of the site. The very important matter of the control of that great estuary known as the Rio de la Plate had much to do with the location of Uruguay's fair capital. The Portuguese claimed that under the decree of Pope Alexander VI they were entitled to establish the Rio de la Plata as the boundary line between their possessions and those of Spain in that section of South America, and hence that the northern or left bank of the river was under their jurisdiction. The Spanish colony of Buenos Aires had been established on a firm basis since 1580, and to offset this advantage the Portuguese governor of Rio de Janeiro determined about a hundred years later to found a settlement almost directly opposite, on the northern bank. As a result the town known as Colonia (Nova Colonia del Sacramento) was founded by the Portuguese in 1680.

When news of this venture came to the governor of Buenos Aires, José de Garro, he at once sent a protest to the Portuguese governor and warned him to vacate. No attention being paid to the protestation, the Spanish governor set himself to gathering a small army of about 3,000 Indians and 300 Spanish soldiers and the same year proceeded to expel the Portuguese invaders *vi et armis*. The Portuguese governor and garrison were taken as prisoners to Lima, and the town of Colonia became Spanish for the time being.

As soon as this performance of the Spanish governor of Buenos Aires became known to the Portuguese Government it protested vigorously, and, being assured of the support of France, threatened Carlos II of Spain with reprisals unless he disavowed the action of his governor, set free the prisoners, and returned the little colony to Portuguese dominion. This Carlos did forthwith, and Colonia once more was Portuguese, remained at peace for nearly a quarter of a century, grew lustily and thrived commercially as an entrepôt for goods destined for the interior of the Spanish possessions in South America. Meanwhile Philip V became the first Bourbon King of Spain, and in 1705 ordered the then governor of Buenos Aires, Valdez Inclan, to oust the Portuguese from Colonia. In the course of time his orders were obeyed, for after a siege of about six months



MACIEL WILARF, MONTEVIDEO.

In 1901 the Uruguayan Government began the work of deepening the harbor and constructing the new port works of Montevideo. In certain portions reserved for ocean-going vessels the harbor now has a depth of 32 feet below low-water mark; in other areas used by smaller coasting vessels the depth is about 16 feet. A number of fine docks have been completed, and are equipped with modern stationary and traveling steam cranes and every other modern facility for discharging and loading cargo.



Copyright by E. M. Newman and Brown & Dawson, N. Y.

A DOCK SCENE AT MONTEVIDEO.

Note the seven large steam cranes shown in this picture of only a small section of the improved port. One of the recently completed moles has 15 traveling cranes and 6 that are stationary, all being operated by steam and having a lifting capacity of 2 to 4 tons each.



RIVER STEAMERS TAKING ON PASSENGERS AT MONTEVIDEO.

Colonia again fell into the hands of the Spaniards. Then, as the culmination of the War of Succession in Europe, came the Treaty of Utrecht in 1713, and in accordance with one of its provisions Philip V ceded the colony back to Portugal. Great was the indignation of the Spanish colonists, and trouble at once arose over the extent of the Portuguese jurisdiction—a matter which became the subject of a bitter controversy between Spain and Portugal that lasted for years.

It was not long before Portugal realized that if it was to maintain its position in the River Plate region further colonization would be necessary. In accordance, therefore, with this idea, in 1723 an expedition was fitted out in Rio de Janeiro under the command of Manoel Freitas de Fonseca, whose instructions were to proceed to the Rio de la Plata and to establish another colony on its northern bank nearer to the ocean than the location of Colonia. He selected a site on a peninsula which juts out just about where the river and ocean meet, and by so jutting forms the eastern limits of a fine natural harbor. On this bay Manoel's engineers began the work of laying out a new town.

News of this aggressive move was soon taken to the governor of Buenos Aires, who happened to be one D. Bruno Mauricio de Zavala, a fighting Spanish noble who had been made a field marshal in recognition of his services to his king and country, and made governor of the Rio de la Plata in 1717. Before the Portuguese had time to complete their fortifications Zavala had gathered a flotilla and embarked with a strong force to attack them. Fonseca, having learned of the warlike preparations, quickly decided that discretion in this case would be the better part of valor, and by the time that Zavala arrived the Portuguese had embarked on their ships and were on the way to Rio de Janeiro.

Zavala, recognizing the strong position and strategic value of the location selected by the Portuguese, took advantage of this opportunity to establish the Spanish occupation of the disputed territory. He at once proceeded to build a fortification, which was known as "El Fuerte de San Jose," and left a garrison of 100 Spanish soldiers and about 1,000 Indians to defend it. Returning to Buenos Aires, he sent a report of his actions to the King of Spain, who approved of everything that had been done, and furthermore recommended that permanent settlements be established at the new location as well as at Maldonado.

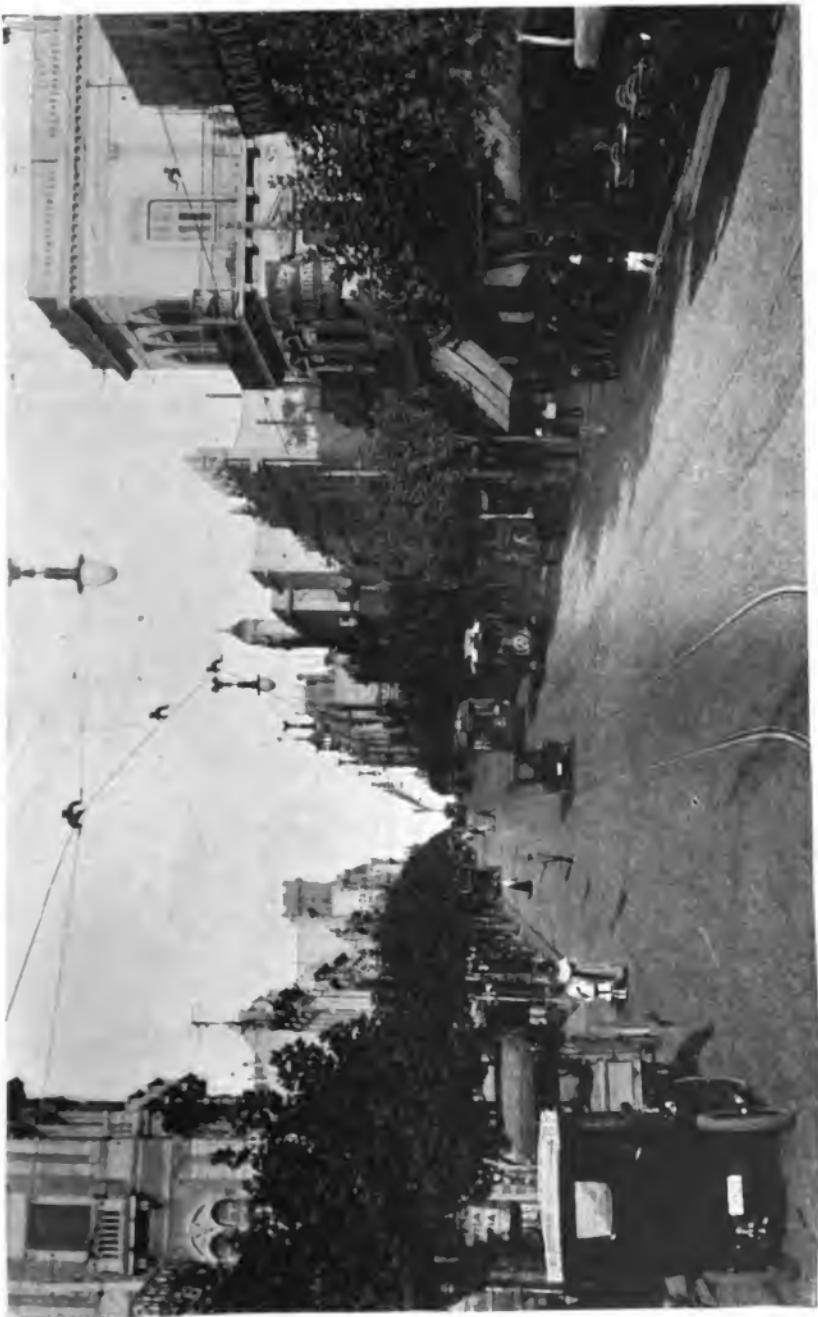
An expedition to put down a tentative revolution in Paraguay temporarily delayed the execution of the King's orders, but finally, on December 24, 1726, the city of San Felipe de Montevideo was fully established, seven families, consisting altogether of 37 persons, having been sent over from Buenos Aires for the purpose. A short time thereafter 20 families were induced to come over from the



Top photo copyrighted by E. M. Newman and Brown & Dawson, N. Y.

MONTEVIDEAN VIEWS.

Top: A bird's-eye view of a portion of the city of Montevideo. Middle: A view of the artificial lake in Urbano Park. Bottom: View of Montevideo taken from Urbano Park, a portion of which is shown in the foreground.



THE AVENIDA 18 DE JULIO, MONTEVIDEO.

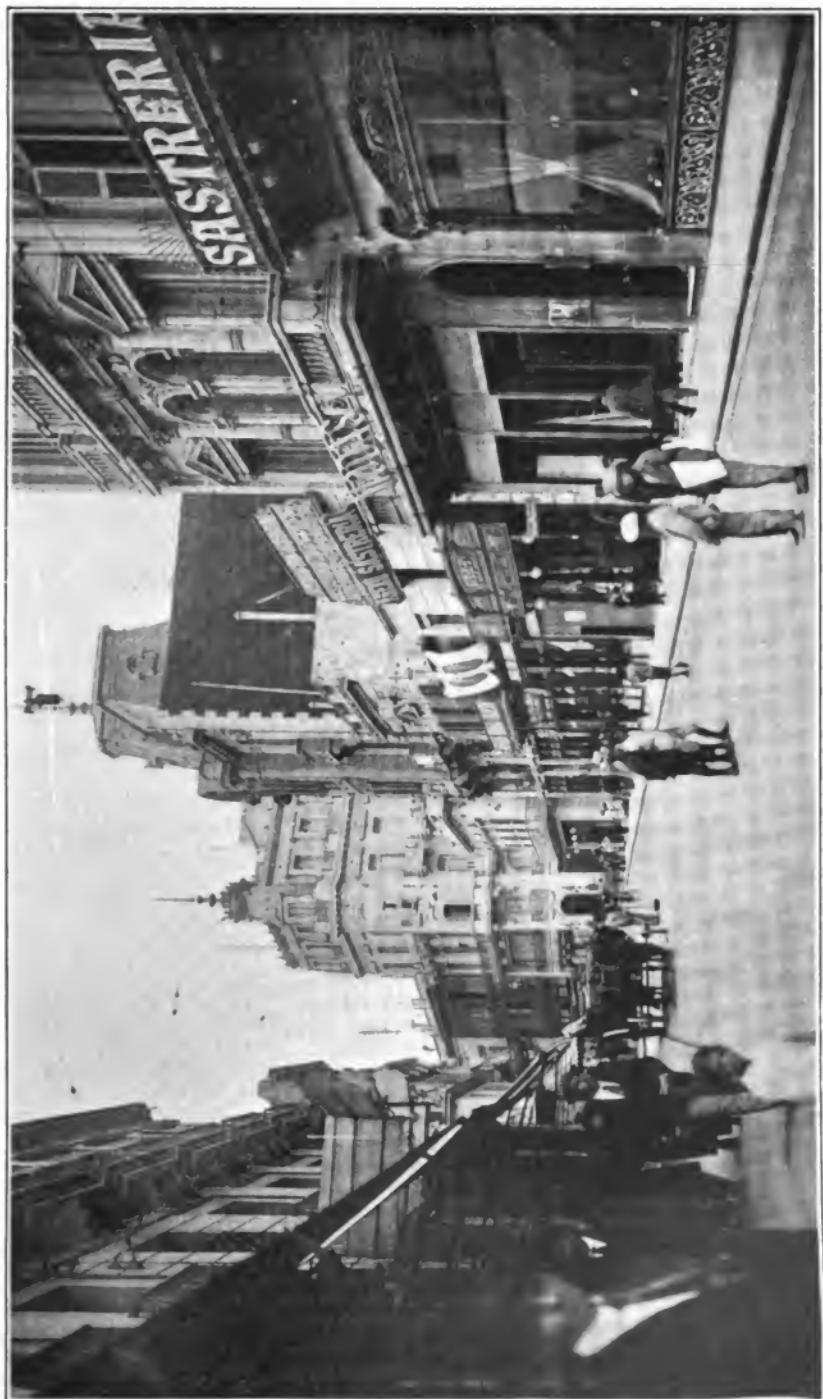
Of the many fine streets and avenues of the city the Avenida 18 de Julio is the most noted. It is a wide and stately thoroughfare lined with shade trees on both sides. It starts from the Plaza Independencia and runs to the Boulevard Artigas, traversing the city east and west, and connects with the Avenida 8 de Octubre, giving the entire street a length of about 2½ miles. It is well lighted by volatile arc lamps of high power arranged in series of five to every 100 meters, and facing it are some of the finest public buildings and handsomest private residences of the Uruguayan capital.

Canary Islands, and thus the little settlement started on its career, a career that has been stormy and strenuous at times, but one that has evoked in its inhabitants the admirable characteristics of love of liberty, sturdiness, and indomitable courage.

Montevideo's history is practically Uruguay's history, and although of absorbing interest in its many heroic and romantic features the limited space allotted to this sketch precludes going into details or even giving a bare outline. Suffice it to say that for many years the country was the bone of contention between the Spaniards and the Portuguese, and at one time (1807) even England fruitlessly stretched out its long arm across the seas to possess itself of this charming region with its delightful climate, its splendid plains, and its wonderful possibilities. The stout-hearted settlers of the Banda Oriental, however, fought stubbornly and long to maintain their liberties, now one and then the other of its enemies being a temporary ally, until finally under their own bold leader, Artigas, whose grandfather had been one of the first settlers of Montevideo, they achieved their independence from Spain. For a time that independence was threatened by its two powerful neighbors, Argentina and Brazil, but in 1828 both of those countries by formal treaty recognized Uruguay as a free and independent Republic, a status that its liberty-loving people have sedulously maintained ever since.

For a century and a half after its founding Montevideo grew steadily but slowly. In 1879 it could boast of not more than 70,000 inhabitants. Then came an awakening which resulted in remarkable progress. From an old-fashioned, untidy, overgrown town it has evolved within 40 years into a modern, clean, sanitary, and well-governed cosmopolitan city of 400,000 people in which every up-to-date convenience and improvement in civic life is to be found. In its care for the blind, poor, and defective; in its provision for the safeguarding of the health of its citizens; in its systems of education; in the conservative control of its finances; in short, in the exercise of all of its civic functions there is not a more progressive or better managed city in all the Americas.

To the mind of the writer no adjective so aptly describes the population as well as the city as the word sturdy. As soon as one lands in Montevideo one is impressed with the sturdiness, the self-reliance, the confident independence of the people he meets. They do not "put on airs." There is no effort at gaudy display of any kind. There is no vain boasting. They mean business, to use an expressive Americanism. That is, they are earnest, they are honest, and they are competent—and they know it. When they erect a public building it is solid, substantial, fine in architecture, and eminently suited to the purpose for which it was intended. They are thorough and build from the ground up in everything, whether it is a material



Copyright by E. M. Newman and Brown & Dawson, N. Y.

CALLE SARANDI, MONTEVIDEO.

The Uruguayan capital has something over 300 avenues, streets, and roadways, all of which are well paved and lighted. Calle Sarandi, one of the older streets, is one of the fashionable shopping streets and traverses the retail business section of the city.



THE PLAZA CAGANCHA, MONTEVIDEO.

Another of the artistic open squares of the city. The handsome structure shown at the right side of the picture is the new municipal building, containing the executive offices of the municipality of Montevideo.



THE SOLIS THEATER, MONTEVIDEO.

This is one of the largest and handsomest theaters in South America, in which have appeared many of the world's greatest celebrities in both operatic and dramatic fields.

structure of steel and stone or an ideal structure of finance and credit. That is what makes the Uruguayan peso worth \$1.04 in United States gold; that is what has made Uruguayan bonds in demand in the money centers of the world. Uruguay's credit is high, for her integrity is like her currency—it does not fluctuate. A promise to pay made by the Uruguayan Government means that it will pay. The whole nation is proud of its record in this respect, and any government that failed to live up to its sacred traditions of integrity would be of short duration.

This characteristic competency and efficiency is noticeable in many things in Montevideo. The city's streets are wide, well paved, well lighted, and are able to accommodate the traffic. Its public buildings are artistic, roomy, and perfectly adapted to the uses for which they were intended. Take the Solis Theater, for instance. It is one of the finest and largest in South America, but it was not built merely for display. It was built because the Montevideans love good music and the greatest of European stars in grand opera are brought over to sing for them. Every great singer who is induced to fill an engagement in Buenos Aires is certain also to appear in Montevideo, and there are so many well-to-do people in the city who are willing to pay even extravagant prices for admission that it takes a very large building to accommodate them. Hence the size of the Solis.

When the Uruguayan Government wants to start something new, like the establishment of a novel feature in sanitation, the introduction of methods of dry farming, or the formation of a new department of governmental service, it goes at the matter in the same efficient and thorough manner. As an instance, some years ago it awakened to the fact that the country was neglecting to develop the fishing industry. The executive officials put the matter before the national congress, which body promptly enacted a law authorizing the organization of a department or bureau of fisheries. The next thing was to get some one who knew how to organize such a bureau, knew the practical as well as the theoretical features, and knew what was needed to equip the institution. A general survey of what other leading countries in the world had done in this line was made, and the conclusion reached was that the United States Bureau of Fisheries was about the best organization of its kind to be found. That being the case, the best thing to do was to get an expert who had been trained in the work of that organization to establish the new bureau. The Uruguayan minister in Washington took up the matter with the proper officials. A careful investigation of a number of experts was quietly made, the right man selected, a salary large enough to get him was offered, and as a result Uruguay has an up-to-date fish commission, with Mr. J. N. Wisner, formerly one of the experts of the United States Bureau of Fisheries, at its head.

Copyright by E. M. Newman and Brown & Dawson, N. Y.

THE PLAZA INDEPENDENCIA, MONTEVIDEO.

Besides the larger parks, such as the Prado and Parque Urbano, there are 12 plazas in the city, all laid out as artistic flower gardens and shaded by ornamental shrubs and large trees. Of these the Plaza Independencia is the largest and most frequented. Among other handsome buildings facing the plaza is the Government Palace, in which are to be found the national administrative and various departmental offices, shown in the extreme left of the picture and surmounted by the flagstaff.





Copyright by E. M. Newman and Brown & Dawson, N. Y.

A SCENE IN ONE OF MONTEVIDEO'S BEAUTIFUL PARKS.



A VERITABLE GARDEN OF ROSES IN THE PRADO, MONTEVIDEO.

The Prado is Montevideo's oldest and most beautiful park. It is a vast expanse of beautiful glades, gardens, lakes, and grottoes, traversed by a picturesque little stream. Its hothouses and greenhouses contain a magnificent collection of tropical plants and shrubs, but its greatest feature is its wonderful rose garden, where bloom some 800 varieties of roses collected from every clime. The arches shown in the picture are covered with climbing roses, and during the summer months the whole rosarium presents a scene of gorgeous floral coloring that can not be described.

The Uruguayan is the product of the free and open life of his great, rolling plains, and when he settles down to city life he must needs have light and air and space to move about in. So, as intimated above, Montevideo is supplied with good, wide streets, about 300 of them, and along their sides are planted rows of fine shade trees. At intervals there are large open squares, laid out in gardens filled with the most exquisite flowers to be found in South America. An ardent love of the beautiful in nature is a characteristic of the people, and in nothing does it find greater expression than in their passion for flowers. The parks, public squares, and private gardens are filled with them, and Montevideo is often called the "City of Roses." Every traveler who visits Montevideo is struck with the beauty and variety of its floral display and many accounts have been written anent this feature of the Uruguayan capital, but the best description the writer has read is by the Rev. Dr. J. A. Zahm in his "Through South America's Southland," from which the following paragraphs are quoted:

But the gardens! And the flowers! Never have I seen in any part of the world such marvelous exhibitions of flowering plants and shrubs, native and exotic, as are found about the homes and quintas of the Montevideans. They surpass in profusion and exuberance even those of Rio de Janeiro, and that is saying very much indeed. California is justly famed as a flowerland. So is the French Riviera. But I have never seen in either of these favored regions of Flora such gorgeous displays of bloom as I have witnessed in and around Uruguay's magnificent capital. With backgrounds of palm, orange, myrtle, magnolia, bamboo, mimosa, alternating with the native paraiso and ombú trees and the Australian eucalyptus, one finds beds of pansies, carnations, marguerites, and lilies, together with hedges of lilac and guelderrose and cineraria, while walls and houses are covered with multi-colored draperies of wistaria, honeysuckle, Bougainvillea, and numerous other creepers of every form and hue.

It is, however, in their roses that the Montevideans take their greatest pride. They are found everywhere, in private gardens and in public parks, in clumps and hedges, trained to trellises and columns, or falling in showers over walls and railings. But nowhere are they seen to such advantage as in the Parque Urbano and in the Paseo del Prado—those exquisite pleasure grounds of the national capital. Here there are no less than 800 varieties of roses collected from every clime. The rose bushes themselves number many thousands. The casual observer would say there are myriads of them. They are distributed with the most exquisite taste, and their care, as one sees at a glance, is for the gardeners a labor of love.

One of the principal factors which enters into this floral profusion and makes it possible is the wonderful climate of the country. The mean temperature of Montevideo's winter—if it can be said to have any winters—is about 52° F.; of its spring, 64° F.; its summer, 71° F.; and its autumn, 61° F. The official statistics of the weather bureau for the period from 1906 to 1914, inclusive, show that the mean temperature (under shelter) at the central observatory at Montevideo was 61.23° F. (16.27° C.); the extreme maximum (which occurred Feb. 19, 1913) was 96.2° F. (35.5° C.); the average maximum for the nine years was 90.6° F. (32.6° C.); the extreme minimum (July 19, 1910) was 34.5° F. (1.4° C.); the average mini-



Copyright by E. M. Newman and Brown & Dawson, N. Y.

A SHADY ROAD IN URBANO PARK, MONTEVIDEO.

Urbano Park, located immediately behind the famous seaside resort known as Ramirez, is the most frequented pleasure ground in the city. Fine trees, shady paths and drives, wonderful gardens of roses and hundreds of varieties of other gorgeous flowers, sparkling fountains, a large artificial lake, and open spaces for athletic games, all provide attractive features that help to make Montevideo the most popular summer resort in South America.



Copyright by E. M. Newman and Brown & Dawson, N. Y.

MONTEVIDEO'S FAMOUS RESORT, POCITOS.

It is located about 3 miles from the center of the city and can be reached in 20 minutes by two different lines of street railways, or in less time by automobile. Along the streets leading to it and at the resort itself are to be found hundreds of pictureque villas and artistic summer homes set in gardens of gorgeous flowers and green shrubbery, occupied by wealthy families of the city itself, from other sections of Uruguay, from Buenos Aires, and even from southern portions of Brazil.

mum for the nine years was 37.8° F. (3.26° C.). The average annual rainfall during this nine-year period was 996.9 millimeters, or about 39 inches. The average of fair, sunshiny days is about 225 per year. Uruguay is therefore often called the "land of sunshine" by travelers from countries where fogs and rains prevail.

Largely because of this salubrious climate and also because of the naturally fine facilities for sea bathing, Montevideo has become the most popular summer resort in South America. Of the fine bathing beaches the most noted are at Los Pocitos, the Playa Ramirez, and Capurro, while others, such as Malvin and Carrasco, are being improved and will soon have the attractive features of the older places. Of these resorts, Pocitos is perhaps the most fashionable and exclusive. It is located about 3 miles from the center of the city and can be reached in 20 minutes by two different lines of street railways, or in less time by automobile. Along the streets leading to it and at the resort itself are to be found hundreds of picturesque villas and artistic summer homes set in gardens of gorgeous flowers and green shrubbery, occupied by wealthy families from various sections of the country, from Buenos Aires, and even from the southern portions of Brazil. The social season lasts from December to March, inclusive, during which period life at Pocitos is at its gayest. In addition to the private cottages and villas the Pocitos Hotel, a large and well-appointed hostelry of 600 rooms, can accommodate a large crowd of guests. One of its pleasant features is its open-air restaurant, where its customers are served on the wide terrace which faces the bay. The beach is a fine one, and for the convenience of the bathers and for the better observance of the proprieties it is divided into three sections. One section is reserved for ladies and children, one for men only, and the third for mixed bathing, where family groups usually congregate. Running along back of the beach is a raised, well-paved esplanade, which extends about three-fourths of the way around the bay and corresponds to the celebrated "Board Walk" of Atlantic City, United States of America. A plan is now being worked out by which this fashionable promenade is to be extended until it joins that at the Playa Ramirez.

The Playa Ramirez is about a mile closer to the heart of the city than is Pocitos, and is perhaps the most popular and democratic of all of Montevideo's resorts. Besides the exceptionally fine beach and its bathing facilities, Ramirez has as a background for its setting the Parque Urbano, one of the most picturesque and best kept parks in South America. Here are groves of fine trees, gardens filled with exquisite flowers and shrubs, and an artificial lake large enough to accommodate a number of motor boats, gondolas, canoes, etc. The beach and park together offer a splendid playground for adults as well as children, and the management of the resort provides many forms of healthy and innocent amusements for its patrons. A fine



THE "RAMBLA" AND BEACH AT POCITOS, MONTEVIDEO.

"The beach is a fine one, and for the convenience of the bathers and for the better observance of the proprieties it is divided into three sections. One section is reserved for ladies and children, one for men only, and one for mixed bathing, where family groups usually congregate. Running along back of the beach is a raised, well-paved esplanade, which extends about three-fourths of the way around the bay and corresponds to the celebrated "Board Walk" of Atlantic City, United States of America."



THE FAMOUS UNIVERSITY OF MONTEVIDEO

The University of Montevideo was founded in 1849, and its various departments are housed in separate buildings especially adapted to each. Of the three departments shown in the above illustrations the one at the top is the new building of the medical department; the one in the middle houses the faculty of enseñanza secundaria, or academic department, which confers the degree of Bachelor of Sciences and Letters; and the one at the bottom is the college of law.

hotel has recently been completed and affords ample accommodation to transient visitors.

Montevideo's remarkable progress in recent years has been largely due to the intelligent and efficient manner in which its municipal government has been conducted. At its head is the intendente, or mayor, who is appointed by the National Government, while the members of the municipal council, the legislative body, are elected by the qualified voters of the municipality, which is divided into districts or wards. The work of the municipal government is divided among a number of departments and is conducted much like that of the larger cities of the United States. Especially efficient is the department of public health, which is provided with every modern facility and device to prevent the spread of disease and to care for the sanitary welfare of the citizens. The city is provided with numerous well-equipped hospitals, some devoted to contagious and infectious diseases that might become epidemic, others for ordinary diseases, while special sanitariums are provided for consumptives and a special hospital for syphilites.

The location of the city is such that its drainage facilities are unusually good. The peninsula on which it is built is shaped something like the back of a whale and is almost a solid bank of gneiss overlaid with a comparatively thin stratum of soil. The city's center is about 40 feet above sea level and the ground slopes gradually on both sides, so there is a natural drainage that materially aids the artificial system. With its ideal climate and splendid location supplemented with all the modern comforts and conveniences that the ingenuity of its people can supply, Montevideo has become as nearly an ideal health resort as can be found in the world. Not only is the city clean and healthy, but it is beautiful as well and promises to become even more so.

As an instance showing the care and forethought of the Uruguayan Government in preserving the openness and attractive features of the streets of its cities and the roadways of the country, may be cited the law which went into effect in 1916 and which provides that all buildings on public streets outside of the radius of the city of Montevideo and other urban centers of Uruguay must be constructed at least 10 meters (32.8 feet) from the boundary line of the property. Within the city limits the free space must be at least 4 meters (13.12 feet). These distances of 10 and 4 meters, respectively, are to be measured from the front boundary line of the land to the most salient part of the building, and the space between must not be occupied by steps, balustrade, or ornaments. The law also makes obligatory the construction of fences on property in Montevideo, even if lots are vacant, when pavement has been laid. The fences must be of artistic iron grating, wood, or other suitable material, but never of



EDUCATIONAL INSTITUTIONS OF MONTEVIDEO.

Top: the Chemical Institute, connected with and forming a part of the medical department of the University of Montevideo. Middle: A typical public school of primary grades in Montevideo. Bottom: The School of Agriculture at Sayago, a suburb of Montevideo, formerly connected with the university, but now under an independent faculty and management.



TWO NOTABLE INSTITUTIONS OF MONTEVIDEO.

Upper: The Military Hospital, one of the best equipped institutions of its kind in South America. It is governed by a board composed of the director general of the army medical corps and a number of other directors appointed by the executive council; and the work is intrusted to a managing director and a staff of skilled military surgeons. Lower: The new building which houses the engineering department of the University of Montevideo.

wire netting, and they must be of the height required by previous regulations.

Montevideo believes in having plenty of light. It was one of the first, if not the first, of South American cities to install an adequate electric-light plant. The streets are always well lighted, but to see them at their best one must be there during the carnival season, when the main thoroughfares and all public buildings are ablaze with thousands of multicolored electric lights. As an instance may be cited the carnival held in February, 1914. During this week of festivity there were 139,703 extra incandescent globes and arc lights used in this manner. The illuminated area began at one of the public squares on the main avenue of the city where there was a large mechanical set piece of a moving chariot from which fell showers of gold poured from a horn of plenty. This figure was 50 feet high by 40 wide, and contained about 12,000 lights. The main street was decorated for 15 blocks with festoons of lights of different colors reaching from side to side. There were 8 festoons to each block, using a total of about 28,000 lights. In the main plaza there were about 30,000 lights arranged in fancy scroll pattern, and in the Cathedral Plaza 60 arc lights and 25,000 incandescents were massed in pyramids 40 feet from the ground. One portion of the main street, extending for two blocks, had 14 varicolored butterflies reaching from side to side and using 5,000 lights. The great Solis Theater was profusely decorated with lights and scenic effects, and all of the other theaters and public buildings were more or less decorated, most of them being wired on the outside so that the lines of the structures were traced in glittering points of light. The beach at Pocitos had tall pyramids of colored lights in which about 16,000 incandescents were used. All of which goes to show that Montevideo knows how to "light up" when the occasion presents itself.

The principal industries of the Republic, as well as those of its capital and chief port, have considerable to do with supplying the world with two of the greatest necessities of mankind—food and clothing. Uruguay is primarily a cattle and sheep country and secondly an agricultural garden spot of the world. As a result, its manufacturing enterprises are almost altogether related to one or the other of these industries, animal products in various forms taking the lead of all others. Over 160 years ago some one happily stumbled on the idea that thousands of pounds of fresh beef usually wasted or fed to dogs could be preserved to the use of man in other sections of the world not so well provided with cattle, and a "sala-dero" (a meat drying and salting establishment) paved the way for an enormous industry. The jerked beef which enters into the daily rations of many thousands of families in Brazil, Cuba, and various tropical countries, as well as furnishes the meat supply for many of the troops now engaged on the battle fields of Europe, comes chiefly



Copyright by E. M. Newman and Brown & Dawson, N. Y.

THE ITALIAN HOSPITAL AT MONTEVIDEO.

In addition to the various hospitals under the direction and management of the Department of National Public Assistance, there are in Montevideo a number of fine private hospitals, among them being the Italian, the Spanish, and the British hospitals. The Italian Hospital is one of the most artistic buildings in the city. The upper picture shows the front exterior; the lower presents a view of the patio or inner court of the building.

from these great "saladeros" of Uruguay, some 13 or 14 of which are located in the department of Montevideo. One of the interesting sights of the city is to be found in visiting some of these establishments where one may see acres upon acres of posts connected with wire upon which is hung the meat that is dried by the sun. This meat, besides being dried is thoroughly salted, and will keep for a long time under conditions which would spoil it if preserved in any other manner.

Perhaps the most noted manufacturing plant in Uruguay—or, for that matter, in all of South America—is located something like 100 miles from Montevideo at a town called Fray Bentos, on the Uruguay River. It is the "Liebig's Extract of Meat Company." This one enormous industry has carried the name and fame of the beef of Uruguay "even unto the ends of the earth," especially where illness and weakness has needed the saving strength of meat in its concentrated and easily digested form. The plant, started in 1865, has grown to immense proportions. The company raises and fattens many thousands of cattle on its own ranches and buys many thousands more to supply its annual consumption of 200,000 head or more. A trip to this "largest kitchen in the world" is one of the features generally enjoyed by visitors to Montevideo.

Three large modern packing houses, called "frigorificos" in the Spanish-speaking countries, are located in Montevideo. The most recently installed of these is the plant owned by the North American firm of Morris & Co., who about two years ago bought some 208 acres of ground in the outskirts of the city for \$155,000 and have since then erected and equipped a plant which is said to have cost over \$2,500,000. It has a daily capacity of 1,200 cattle, 1,500 to 2,000 sheep, and as many hogs as are obtainable. The two older plants are owned by Swift & Co. and a British company, respectively. According to the cattle census of 1916 the country has nearly 8,000,000 head, so that the supply is abundantly able to meet the demand of the packers and the jerked-beef plants, all of which combined are said to consume from 600,000 to 700,000 head of horned cattle annually.

Other industries in the country growing out of the cattle business are some 350 dairies, 14 creameries, and 4 tanneries. Manufacturing plants using agricultural products include 115 flour mills and macaroni factories, 3 starch factories, a large sugar refinery, 4 breweries, several distilleries, and 2,266 vineyards and wineries. The spinning and weaving industry is represented in Montevideo by several large woolen mills, well equipped and prosperous. Among other manufacturing plants may be mentioned a rice mill, 43 factories engaged in the tanning and preparation of leather and in the manufacture of boot and shoe soles, 9 canning factories, 16 chocolate and candy factories, 7 match factories, 19 butter and cheese factories, 5 boot and shoe factories, 24 brass and iron foundries, 14 sawmills, 17 tobacco



THE PENITENTIARY AT MONTEVIDEO.

Montevideo has one of the finest and most modernly equipped penal institutions in South America. The top picture shows the main building surrounded by its great wall, with the administration building and the residence of the director and assistant director of the prison on either side in the foreground; the middle picture shows a portion of the main building and a section of the surrounding wall as it is patrolled by the guards; and the lower picture shows an interior view of one of the halls of the main prison, with its three tiers of cells.

factories, 25 soap factories, several furniture factories, and one of the largest cement plants in South America.

Preeminent among Uruguay's manifold and efficient institutions is its fine educational system. In this respect the Republic has followed its accustomed policy of being up to date and thorough. According to the statistics of 1911 there were 1,011 primary public schools in the country. Primary and graded schools together numbered 1,310, the number of pupils attending being 137,000. The population at that time was 1,094,688, so that there was one public school for every 843 inhabitants. Many new schools have been added to the number since this census was taken, but exact figures are not available to the writer. However, this showing of six years ago is an indication of the Uruguayan appreciation of the benefits of general education for all the people.

As to higher education, what may be termed the capstone of the entire educational structure of the country is the celebrated University of Montevideo, founded in 1849. This institution has a number of departments, each under a special faculty. Among these are, in addition to the strictly scientific and literary course which leads to the degree of bachelor of science and letters, the departments of law and sociology, medicine, pharmacy, mathematics, commerce, veterinary science, and agronomy. Each of these departments is provided with special facilities, such as libraries, museums, laboratories, etc., while the members of the various faculties are specialists in their respective lines.

It is perhaps largely due to the advanced educational methods of the Republic that the Government of Uruguay has for the past 15 or 20 years been among the most progressive in the world. Uruguay does not wait for some other country to try out a new idea in government. It tries the experiment itself, and if the innovation proves to be good it is retained; otherwise it is soon rejected. As instances of advanced ideas in democratic government may be cited the following legislative measures which have been adopted in the last two years: A law providing for Government control of the telegraph, telephone, and postal services; a law providing an 8-hour day for workingmen; a workmen's compensation law; the taxation of advertising; and a rigid bank-inspection law.

These are but a few of the noteworthy features of the Republic of Uruguay and its modern capital. There are many others that can not be dealt with in this brief sketch. One of the most agreeable impressions that the stranger who visits Montevideo receives is that of the sincerity of the welcome extended to him. The people seem genuinely glad to have foreigners visit their city, and somehow they manage to make a North American feel very much at home. At least that was the experience of the writer, and it is with unalloyed pleasure that he recalls every moment of his stay in Montevideo—the "City of Roses."

THROUGH THE MARVELOUS HIGHLANDS OF GUATEMALA¹

EAR upon the horizon towered the twin volcanoes of Atitlan, their dark flanks wreathed in vast white masses of cloud-like sparkling fields of snow. The cones, thousands of feet above, stood out sharply against the deep blue vault of the tropic skies. For five days we had been riding to them through the enchanted highlands of Guatemala, a marvelous land of fragrant pine forests, flowers, singing birds, broad winding roads, and fertile fields of wheat and corn cultivated by hundreds of thousands of industrious Indians. And many pueblos we had passed, lying on the rolling bosom of the cool table-lands with their schools and temples to Minerva, goddess of wisdom, and their white mission buildings and churches from whose thick-walled towers the pealing bells summoned the devout Indians to prayer. Almost without sensing a change of scene we had plunged into the quiet depths of a giant forest, dark after the brilliance of the tropical sun, where mighty trees rose as the stately pillars of a cathedral, to find upon emerging that a turn of the road brought into view a panorama of 200 miles of magnificent mountain country, forests, plains, the silver glint of lakes and streams, and volcanic cones 2 miles high enshrouded in turbans of fog.

Such is Guatemala, land of majestic contrasts, of unwonted, almost appalling surprises. Here is one of the splendid show places of the world. Far from the beaten path of most tourists its wonders are becoming better known. In grandeur it will compare with Switzerland, the Canadian Rockies, the Grand Canyon of Arizona, and its panorama is laid upon as vast a scale. Yet the tropic highlands have an individuality all their own, of lights, and shades, and fleeting colors, of luxuriant masses of vegetation, of inspiring and prodigious formations of the land.

Below lay cities with their public squares and white churches, fields of yellow grain like golden patches of light in the crystal-clear atmosphere of the highlands, huge dark masses of forest, and beyond, extending their thousands of spurs and flanks, rose the prodigious Cordilleras. To the left the peaks of Atitlan towered to the heavens, majestic, symmetrical, recalling in their perfect contour the famed Fugiyama of Japan.

¹By Hamilton M. Wright, author of *A Handbook of the Philippines*.

VIEWS OF GUATEMALA CITY.

Photos by Hamilton M. Wright

Top: A distant view of the city. "It is, itself, a city of the highlands with an altitude of 4,800 feet above sea level, a thoroughly modern city with excellent hotels and clubs and every convenience for the tourist and traveler. The population of the city is about 125,000, and with its well-paved streets, fine shops, attractive churches, public edifices, and educational institutions it affords a thousand pleasant diversions." Middle: Two plump Indians of Guatemala standing on El Carmen Hill, with the city in the background. Bottom: Another view of the city looking toward the cathedral in the middle background.



It was more than a half day's ride from this point before we came to Godines Crest and beheld, 3,000 feet below us, the deep blue waters of Lake Atitlan, and on its opposite shores, rising sheer a mile to a mile and one-half above the surface of the lake, seven great volcanoes, of which the two known as Atitlan are the most wonderful. Lake Atitlan, itself a vast crater lake 27 miles in greatest length and 12 miles wide, is a remarkable body of water. The Rev. Father Garcia, of Naguala, a graduate of the University of Rome, and one who has given enthusiastic study to the meteorology of the region, informed me that official soundings of this lake gave an extreme depth of more than 1,000 feet. Its surface is 5,000 feet above the level of the sea. Its waters teem with trout with which it has been stocked and, while walking upon its sandy beach near Panajachel, we saw great schools of smaller fish and not a few of the larger. Into its shores plunge the volcanic hills, often in precipitous, forested hogbacks, often in steeply sloping wheat fields, or again ending in mile-high cliffs of bright red sandstone or perpendicular walls marked by the slate grays and purplish hues of volcanic ash. Such are the walls of Lake Atitlan, often called Lake Panajachel, painted by nature in her most glorious, riotous colors, and rivaling even the famed hues of the Grand Canyon of Arizona. From the shores of the lake, as we first looked down upon it, arose great clouds of steam as if the beach were saturated with boiling water. But, in this case, it was merely the afternoon sun beating upon the wet sands, for the waters of Atitlan are cool and crystal clear. Billows of mist, too, arose from the surface of the lake, only to be caught and dissipated by the sudden squalls that come almost vertically from the mountain passes, and always there were rainbows to be seen in the ascending mists. Whether one looked a half mile down upon the mirrored surface of the lake or whether he gazed at the volcanoes towering a mile above and wreathed in their streaming feather bows of shifting vapors, he felt as though great phenomena of nature were being staged for his benefit.

Some splendid roads have been built in the neighborhood of the lake. One of them, broad and sweeping, leads from Panajachel on the southeast shores of Atitlan to the picturesque pueblo of Solala, which is perched on mountain bluffs thousands of feet above. The road is blasted from rocky cliffs and its sides and walls are, literally, of granite. It is a remarkable piece of construction accomplished by one of the generals of President Cabrera's army. So steep is the road that cascades fall at its very edge and their waters are borne beneath it by culverts. As it skirts the gigantic bluffs, the traveler obtains entrancing visions of the lake and of the many villages upon its shores.



SCENES IN GUATEMALA CITY.

Upper: Guatemalan soldiers in the main plaza in Guatemala City. Lower: The plaza decorated for the "Festival of Minerva."

Photos by Hamilton M. Wright.



A CASCADE NEAR LAKE ATITLAN.
GUATEMALA.

"Some splendid roads have been built in the neighborhood of the lake. One of them, broad and sweeping, leads from Panajachel on the southeast shore of Atitlan to the picturesque pueblo of Solola, which is perched on mountain bluffs thousands of feet below. * * * So steep is the road that cascades fall at its very edge, and their waters are borne beneath it by culverts."

We started on this journey, myself and my compadre, a genial old muleteer, from Guatemala City, the capital of the Republic. It is, itself, a city of the highlands with an altitude of 4,800 feet above sea level, a thoroughly modern city with excellent hotels and clubs and every convenience for the tourist and traveler. The population of the city is about 125,000 and with its well-paved streets, fine shops, attractive churches, public edifices, and educational institutions it affords a thousand pleasant diversions. At 7 o'clock of a cool bright morning we clattered over the broad flagstone pavements of the city, the writer on a stout mule and his companion on a wiry little mountain horse. Our objective for the first day was Antigua, the former capital of the Republic, which lies as a modern Pompeii at the brim of the twin volcanoes, Agua and Fuego. The journey, 30 miles, is also made by automobile and diligencia or stage. In fact, the roads in the dry season will permit automobiles to travel about 50 miles farther north, but as we contemplated traversing some very rough country we preferred to cling to our mounts. The ride to Antigua, though a short one, is filled with interest and novelty. In the early morning one passes an almost endless procession of oxcarts and picturesquely dressed Indians coming in to market. At Mixeo, about 9 miles out, is to be seen the old conduit of flat flagstones built many years ago to supply Guatemala City with water. The conduit was still delivering water, and its method of construction suggested that of the old Roman aqueducts. At Mixeo one obtains an excellent view

VIEWS OF LAKE ATITLAN, GUATEMALA.

Photos by Hamilton M. Wright.

"Its surface is 5,000 feet above the level of the sea. Its waters teem with trout, with which it has been stocked, and while walking upon its sandy beach near Panajachel we saw great schools of smaller fish and not a few of the larger. Into its shores plunge the volcanic hills often in precipitous, forested hogbacks, often in steeply sloping wheat fields, or again ending in mile-high cliffs of bright red sandstone or perpendicular walls marked by the slate grays and purplish hues of volcanic ash. Such are the walls of Lake Atitlan, often called Lake Panajachel, painted by nature in her most glorious, riotous colors, and rivaling even the famed hues of the Grand Canyon of Arizona." ("Through the Marvelous Highlands of Guatemala," by Hamilton M. Wright.)



of Guatemala City, which lies upon an elevated plain on the Atlantic side of the Continental Divide and which has the characteristic dignity and stateliness of the larger Latin American capitals, due, no doubt, to the careful city planning and to the ornate architectural forms employed.

At Mixco we leave the stage road, plunge by a short cut into the hills and by 1 o'clock are in Antigua. It has been said of Antigua that it possesses the most extensive ruins to be found in any one spot in the world. The city was founded by the warrior Alvarado, who was sent south from Mexico about 1541. It was destroyed by an earthquake on July 29, 1773. Although some of its ruined churches have been reconstructed, for the most part the restored city embraces the old ruins which have changed but little in appearance in the last 100 years. The giant arches still remain and the mighty walls give a hint of past glories. At the time of its destruction Antigua was the center of the political, economic, and ecclesiastical administration in Central America. Fifty-eight huge edifices including the cathedral, the governor general's palace, and many handsome churches and their dependent monasteries were laid waste. To my mind the most beautiful ruin is that of the Church of the Recoleccion, which I was at pains to photograph. Although much of the débris has for generations been covered with trailing vines and picturesque shrubs, these but serve to accentuate the majesty of the great pillars and arches which appear capable of enduring for centuries. Of amazing interest, to the writer at least, was the fact that the pigments used in the decorations of the walls, and the inner arches of the church were as bright and fresh as if the colors had been applied but yesterday. Venetian red and cerulean blue appeared in attractive mosaics and designs. These are probably outer decorations which led to murals of religious subjects on the ceilings of the central vaults or naves.

The volcano Agua towers almost directly above the city of Antigua, at least so it seems, for the gradient is very steep, but a high ridge leads down the southern side of the mountain by which the ascent is easily made by muleback in a few hours. It is quite customary to ascend the volcano, which has an elevation of 11,000 feet, to see the sun rise. If the morning is a clear one Guatemala City, Lake Amatitlan, 15 miles south of Guatemala City and even the Pacific Ocean may be discerned. Ice forms near the summit of the peak and, as there are many hot springs, one may, as it were, turn the faucet of old Mother Earth for both hot and cold water. There are several good inns and hotels in Antigua with corrals in connection where one may put up his horses. At the inn at which the writer stopped there were a gentleman and his wife from Valparaiso, a family from Cuba, and two ladies and their brother from Boston. Thus, it may be seen, Antigua is rather cosmopolitan in its appeal.



TWO VIEWS OF LAKE ATITLAN, GUATEMALA.

Lake Atitlan is a vast crater lake 27 miles in greatest length and 12 miles wide. Its surface is 5,000 feet above the level of the sea. "From the shores of the lake, as we first looked down upon it, arose great clouds of steam as if the beach were saturated with boiling water. But, in this case, it was merely the after-noon sun beating upon the wet sands, for the waters of Atitlan are cool and crystal clear. Billows of mist, too, arose from the surface of the lake, only to be caught and dissipated by the sudden squalls that come almost vertically from the mountain passes, and always there are rainbows to be seen in the ascending mists."

VIEWS OF ANTIGUA, THE ANCIENT CAPITAL OF GUATEMALA.

Photos by Hamilton M. Wrights.

Upper: The city of Antigua, founded by Alvarado about 1541 and destroyed by an earthquake on July 29, 1773. "Although some of its ruined churches have been reconstructed, for the most part the restored city embraces the old ruins, which have changed but little in appearance in the 100 years." In the background is the volcano Agua, which towers almost directly above the city and has an elevation of 11,900 feet. Lower: Ruins of the Church of the Recolección. "Although much of the debris has for generations been covered with trailing vines and picturesque shrubs, these but serve to accentuate the majesty of the great pillars and arches which appear capable of enduring for centuries."



During our brief stay there we had the finest of strawberries for the table, also sweet corn, beets, lettuce, and artichokes. Inquiry revealed that almost every fruit and vegetable known to the temperate zone can be grown in the Guatemalan highlands. We passed some unusually fine peach trees at Totonicapan later in our travels. The flowers, too, were lovely, roses, hollyhocks, and crysanthemums being cultivated in the public plaza at Antigua.

Leading out of Antigua one passes on broad shady roads, sometimes through narrow ravines, again crossing meadows with running brooks and now mounting upward through forests of pine until the plateaus are reached, great broad table-lands bordered by distant mountain ranges whose lofty volcanic peaks stand out boldly against the sky.

All the highland country is densely populated; at least all that portion which lies between Guatemala City and Quetzaltenango, the second city of the Republic. The mountains are intensively cultivated up to a height of almost 10,000 feet. Fine schools have been built in the pueblos and cities under direction of President Estrada Cabrera. The President, who is a patron of all the arts, has vigorously pushed the manual training and technical schools. They are to be found throughout the settled portions of the Republic. Education is compulsory. Electric lights and pure water piping are installed in all communities of any size. The telegraph system is admirable; I sent 10 words 180 miles for 7 cents (American currency), a much lower rate than prevails in the United States or most other countries. The telegraph, educational, postal, and mining laws were personally formulated by President Cabrera, who is a jurist of extraordinary attainments. The police system is excellent. I have never seen an intoxicated person in the Republic. One can travel in any portion of it unarmed. Concrete has worked wonders. Every community has its public concrete washing place where the women may wash their clothes and to which water is often piped a great distance.

The people of the highlands, except in the larger towns, are mostly Indians, who are believed to be descended partly or wholly from the ancient Mayas. I had read that the faces upon the existing obelisks and monuments often bore a striking resemblance to the countenances of the Indians of to-day. The statement I found verified in the monuments at Quirigua. Of all the prehistoric races of the American hemisphere the Mayas were among the most advanced. They had progressed so far in mechanics that they were able to move rocks weighing 20 tons or more over great distances. They possessed a considerable amount of written lore, and represented sounds in their hieroglyphics. Their carvings of human beings or animals had been developed beyond the profile stage of the Egyptians. We found that many of the Indians we met upon the road had but a limited knowledge of Spanish. Father Garcia, of Naguala, is authority for the statement that there are now 27 different dialects spoken among



Photograph by Hamilton M. Wright.

"THROUGH THE MARVELOUS HIGHLANDS OF GUATEMALA."

Top: View of a plantation 20 miles from Guatemala City. Note the coffee trees growing in the shade of banana plants and larger trees. Middle: Bridge on the road between Quetzaltenango and Totonicapan, the two cities being connected by a fine public highway. Bottom: One of the beautiful mountain roads of Guatemala.

these people. The Rev. Father Rossbach, of Totonicapan, has 40,000 Indians in his parish. He did not know, he said, of a more devout or moral race. They are, too, a picturesque people. The men with their loose, open-sleeved jackets, plaid skirts, sturdy bare legs, and flat straw hats of home weave, strangely resemble the natives of northern Japan. The women lend a touch of vivid color to every country side. They wear richly hued guipils, home-woven waists of purple cloth, embellished with red and gold patterns and with sashes extending from the waist to below the knees, wound somewhat tightly yet permitting freedom of the limbs.

The gray dawn each morning found us started on our way, the air was cool and bracing and one could make from 35 to 40 miles a day without discomfort (we made more than this at times) and with several hours to spare in leisure at the road side or in the villages. Between Pazum and Panajachel we came to a profound barranca or chasm in the earth, where the ground at the road side fell away in precipitous walls 800 feet in depth. As one looked down from the level surface of the plains the tallest pines at the bottom of the chasm seemed but pygmies. This was the head of a great valley which stretched straight ahead for a score of miles. There are a number of such barrancas in Guatemala, some of which have no visible outlet above the ground. While I was photographing one of these crevasses at its apex a huge piece of ground 40 feet long and several feet wide broke from the opposite side, not more than 100 feet away, and went thundering down to the bottom.

Totonicapan, in the northwest part of the Republic, which we reached from the Peten region, lies at an altitude of 8,300 feet above sea level. Around it on all sides but the west rise the walls of great hills. It is a well-paved city of 18,000 population with attractive shops and fine churches and public buildings. All about are vegetable gardens, grain fields, and numerous orchards. Were it not for the lofty mountains near by, the North American here might fancy himself in the central part of New York State.

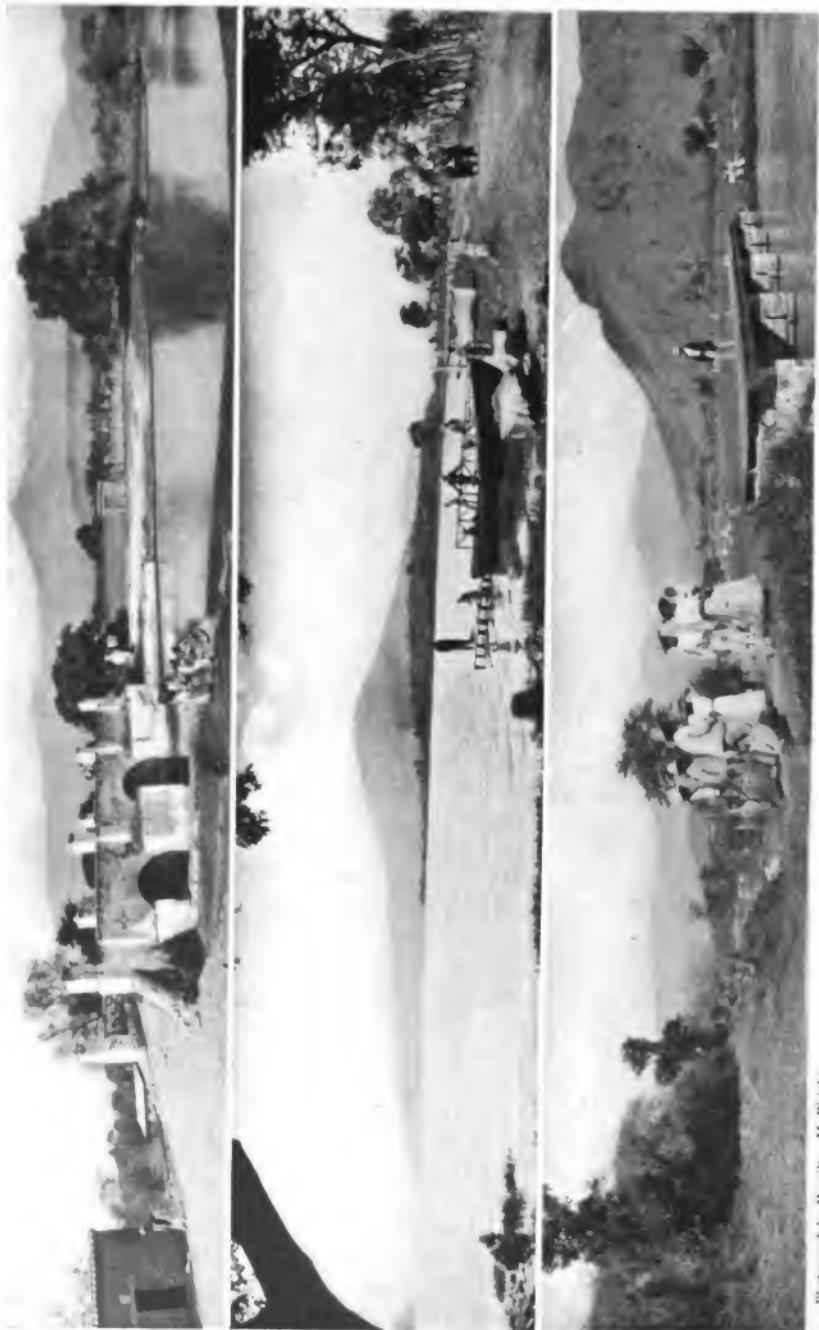
From Totonicapan a fine road leads west for 15 miles to Quetzaltenango, the second largest city in Guatemala, distinguished by its imposing public edifices, beautiful plaza, and fine business structures. There are six good hotels in Quetzaltenango and, although the city is 35 miles from the railroad at San Felipe, they enjoy a brisk patronage.

The stage road to San Felipe is one of the scenic highways of the world. In 35 miles it drops more than 1 mile and skirts the flanks of Mount Santa Maria, one of the most picturesque of the Central American volcanoes. More than this: In a few brief hours it plunges from the pine-clad temperate zone into tropical jungles of a luxuriance that baffles description. Here is a foreworld. Prodigious hard-woods with branches rising from clear boles 80 to 100 feet above the

Photograph by Hamilton M. Wright.

THROUGH THE MARVELOUS HIGHLANDS OF GUATEMALA.

Top: The old bridge built by the Dominican friars over the outlet of Lake Amatlan, about 17 miles west of Guatemala City, easily reached by a fine automobile road. Middle: Lake Amatlan, reached in three-quarters of an hour by train from Guatemala City. Along its shores are many hot springs, and the lake is well stocked with fish. Bottom: Bridge crossing one of the narrow sections of lake Amatlan.



earth are hung with giant creepers like enormous serpents. Clusters of orchids cling to the branches or crevices of trees or hang suspended from trailing vines. Skeins of gray moss beard the trees. Tree ferns, giant palms, and exotic flowers are features of a jungle which, at times, one can only penetrate with a machete. In a few hours by the auto stage the traveler has plunged into a different world.

Santa Maria has been the most formidable of the Central American volcanoes. In 1902 an eruption blew a strip of earth said to exceed a mile in length from its side. The ash dust from the volcano is said to have been perceived as far north as the City of Mexico and as far south as Colombia. Ashes fell in some places at Pacific coast points to a depth of 6 or more inches. Yet despite the intensity of the upheaval the loss of life was not as serious as was reported and was confined principally to Santa Maria, although portions of Quetzaltenango were damaged.

No one who visits Guatemala should miss seeing Lake Amatitlan, which is much more accessible than Atitlan, although the latter can be reached by a 35-mile ride from the railroad if one approaches it from the South. Lake Amatitlan, however, is reached in three quarters of an hour by train from Guatemala City, the railroad skirting its shores for about 6 miles and, at one point, passing over a narrow escarpment which divides the lake in two parts. Along its shores are many hot springs, and the lake is well stocked with small fish. It is rumored the lake possesses a subterranean outlet which causes a vortex where luckless fishermen have perished. Good roads and trails extend around the north borders of Lake Amatitlan. I recall a charming Sunday spent in traversing some of them and in walking into the fertile back country, where the fine roads are bordered by stately cypress or by eucalyptus trees, and white-walled adobe houses are set off by morning-glories and thickets of bamboo. Lake Amatitlan has long been a popular watering place; centuries ago the Guatemalans visited its hospitable shores in winter to escape the chill winds of the higher plateaus. From Amatitlan good roads run to Escuintla in the first foothills near the Pacific. Also Lake Amatitlan offers a wonderful foreground for the volcano Agua, that colossal pyramidal cone whose exquisite proportions are easily recognized from whatever point of the compass one views it.

Wonderful Guatemala, with its sky-piercing peaks, its purple mists, its vast forests, great lakes, cool uplands, and cities in the fine architecture of the Spanish renaissance, will well repay the tourist from whatever land. It is easily reached by the fine steamers of the United Fruit Co., from either New York or New Orleans and is traversed by 500 miles of modern railway.

At last my trip was over. I parted from my brave compadre of the winding trail in the highlands, said good-by to my new-found friends, and sailed from Puerto Barrios. But I shall go again.

BOLIVIA'S RAILWAYS-- PROGRESS AND PROSPECTS

"NEXT station is Condor," cries the Bolivian trainman far away in the high Andes. The announcement elicits no special comment. But when we add the phrase, "one of the world's highest stations," Condor at once assumes greater importance in name, if not in affairs. No one seems inclined to question the claim, for where else on the earth can we ride in a modern railroad train "1 mile above the clouds and 3 miles higher than the sea"? As the traveler journeys by rail to Bolivia's fabled city of Potosi this little station stands by the wayside at an altitude of 15,814 feet—higher than Pike's Peak, Mount Blanc, or twice as high as the top of Mount Sinai, of sacred history.

High altitudes, marvelous feats of engineering, and glorious mountain views are typical features that greet the traveler in western Bolivia. But from the foothills of the Andes to the slow-flowing waters of the Paraguay, hundreds of miles eastward, the primeval forests and the vast undulating cattle plains offer striking contrasts. It is over extremely rugged mountains and toward remote lowlands that Bolivia has been pushing the iron rails, endeavoring to provide modern facilities for marketing her varied products.

Twenty-five years ago Bolivia operated few, very few, miles of railroads; yet, as one of the world's richest mineral countries, it has been supplying vast quantities of raw products to other lands, marketed, however, by the most primitive means. Finally the awakening came, and in 1890 the first real railroad in the country was inaugurated. To-day this road forms a link in the Antofagasta & Bolivia Railway system, which provides Bolivia's southern outlet to the Pacific.

A few years afterward the late Gen. Pando, then President of Bolivia, whose recent tragic death cast a gloom over the whole Republic, began construction of a railroad with Government funds between the Bolivian port of Guaqui, on Lake Titicaca, and La Paz. The distance is about 60 miles and the route had long been traveled by the old-time stage coach and the picturesque llama caravan. The completion of this railroad after three years' labor, or in 1913, and the large amount of traffic that quickly developed, gave a decided impetus to railway building.

In 1904 President Pando appointed as minister to the United States one of his ablest cabinet officers, Don Ignacio Calderon, who

* By William A. Reid, Pan American Union Staff.

COROCORO, ONE OF THE WORLD'S RICHEST COPPER REGIONS.
The railroad from La Paz to the Pacific port of Arica does not tap this great mining town. The Government, however, seeing the need of more modern facilities constructed a spur line to Corocoro, thereby providing a rail route to the sea.

Photo by L. F. Scheeler.





ONE OF THE DEEP CUTS ON THE ARICA-LA PAZ LINE.

This third and newest western outlet for Bolivian products is the shortest route to the sea at Arica. The road handles a vast amount of copper from the Corocoro district and minerals from other parts of the country. The distance from La Paz to Arica is about 278 miles.

still presides over the Bolivian Legation in Washington. Minister Calderon was not long in obtaining financial support from American bankers, which, in addition to Bolivian funds specially set aside for the purpose, caused railway construction in Bolivia to become very active. A total of 863 miles were surveyed and planned by the Government, acting in cooperation with the North American syndicate, which sent a number of engineers and builders to the scene of action. Many miles were actually built before this syndicate sold its interests and concessions to an English company, presumably at a large profit.

In the succeeding years La Paz has been linked with the Pacific ports by three different routes, and the larger Bolivian cities to-day enjoy the advantages of modern railways. The shortest line to the Pacific (Arica, 278 miles) was constructed in accordance with an international agreement between Bolivia and Chile. Since its inauguration a few years ago this road has developed freight traffic far in excess of its facilities, but the recent acquisition of new rolling stock is now relieving to some extent the congestion, especially of copper from the famous mines of Corocoro. So urgent has been the demand for this mineral that a short railroad was constructed from the Arica-La Paz line to Corocoro with Government funds, and since the opening of this modern outlet the products of the whole region have largely increased.

Despite the present disturbed conditions of the world, Bolivia has continued to build railroads. French financiers who hold a concession for constructing a road between La Quiaca on the Argentine frontier and Tupiza, a distance of 56 miles, have not faltered in their work and are to-day actively pushing construction. Another stretch of unbuilt line of about equal distance, which lies between Tupiza and Atocha, was to have been constructed by an English company, but the exigencies of war have caused a postponement of work or an abandonment of the concession. In other words, Bolivian and Argentine capitals, 1,640 miles apart, would be connected by rail by the building of about 65 miles of new road, in addition to the line now building under French auspices, as already mentioned.

La Paz being already connected by rail with the Pacific port of Mollendo (530 miles), with the exception of 125 miles steamer service across Lake Titicaca, would then be on a great international railway stretching diagonally from the Pacific to the Atlantic. The route traverses areas of Bolivia's richest mineral lands, as well as penetrates the southern agricultural region, and the road eventually no doubt will develop a paying local if not a through freight traffic. Travelers and tourists generally, many of whom are already bridging the distance between Bolivian and Argentine rail heads by using the motor cars recently placed in operation between Atocha and La



BOLIVIAN RAIL

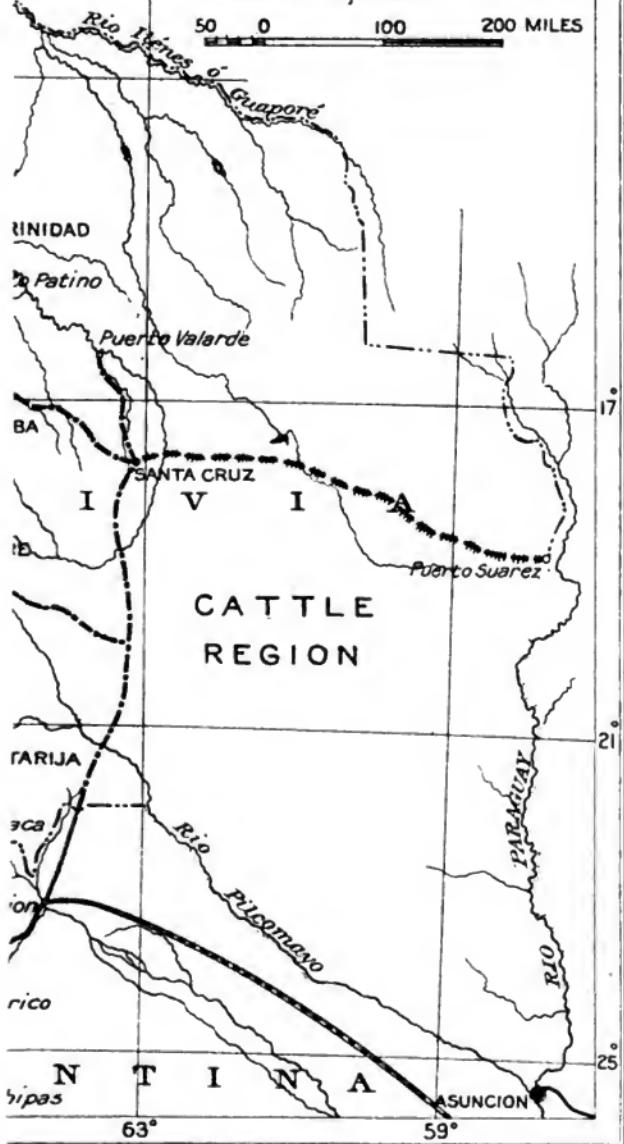
The first aim of the Government in providing modern transportation has been to building and the completed line to Cochabamba are the results of efforts

63°

RAILROADS

- In operation
- - - In construction
- - - - Under consideration
- *** Plans completed
- - - - - Projected

50 0 100 200 MILES

**ROADS TO-DAY.**

link the mineral regions and larger cities with the seacoast. The Yungas road now connects the highlands with the northern and eastern agricultural regions.



CONDOR, ONE OF THE WORLD'S HIGHEST RAILROAD STATIONS.

On the road between Rio Mulatos and Potosi the rails reach an altitude of 15,814 feet, the second highest railway in the world. The picture shows a party of railroad officials and Bolivian citizens in the vicinity of Condor viewing the surrounding country, especially picturesque as seen through the clear, crisp air of this altitude.



A TYPICAL RAILROAD STATION IN THE TIN-PRODUCING REGION OF BOLIVIA.

Here we have a glimpse of the depot in the rural district with its workmen awaiting the coming of the freight train, upon which will be loaded the tons of tin bars to be seen in piles near the track.



PULACAYO, A TYPICAL FREIGHT STATION IN WESTERN BOLIVIA.

Mining operations in Bolivia have never been so active as to-day. Last year the country's total exports passed the high value of 100,000,000 bolivianos (boliviano equals about 40 cents United States money), and on many lines of road the products offered for transportation have far exceeded the capacity of rail facilities.

Quiaca, will be drawn in greater number through this heart of the continent route. Settlers who are drifting to these new and undeveloped regions of Bolivia will be given encouragement by easier railway access and, of course, a far better chance of success in cattle raising and agricultural enterprises.

In July last the railroad from Oruro to Cochabamba, 125 miles, was completed and officially inaugurated. This road has been building for several years, and its route gradually leads from the high mining region to lower agricultural lands in the Department of Cochabamba. From the latter city a primitive highway exists for 300 miles or more through a slightly developed region of the Republic to Santa Cruz, a place of 20,000 people and a center of a large rice, sugar cane, and other tropical products trade. Still farther eastward a less used trail extends 425 miles through the forest country to Puerto Suarez on the Paraguay River. This region of Bolivia is very thinly populated, but the land is productive, and with the construction of a railroad, which would not encounter the difficulties of road building that exists in western Bolivia, a vast territory could be opened to colonization. The natural eastern outlet for cattle and grain and also for some rubber is via the port of Suarez and down the Paraguay River to Rosario and Buenos Aires. As indicative of the transportation demand, two business men of Santa Cruz established steamer service on the Paraguay from Suarez to Rosario, Argentina, and the first cargo of 2,600 kilos of rubber reached the latter port in February, 1916. For about eight or nine months of the year automobiles could be operated over the Santa Cruz-Suarez route, according to the statements of business men who reside in the region traversed. It may possibly be years before a railroad joins the two places, and in the meantime some enterprising corporation might secure a concession and establish motor service, which would eventually be profitable, considering the allied industries that could be exploited in addition to transportation service.

Another and very important railroad that will be completed probably next year is the line now under construction from La Paz to the Yungas region. The first division of this road will be about 125 miles long, and in that short distance the route winds from the region of snowy peaks and cool climate to a land of perpetual springtime, where flowers, tropical fruits, and foods grow luxuriously. For years these products in small quantities have found their way to the markets of La Paz and other highland cities, thus providing the native gatherer with at least a small revenue. With the advent of the new and quicker transportation—the railroad—both the Bolivian capital and the whole region tapped by the road will be benefited. Furthermore, the development of a freight traffic in lumber, rubber, fruits, and other commodities offers a promising future.



Photo by I. F. Scheeler.

A GLIMPSE OF THE TOWN OF COROICO.

The railroad now under construction from La Paz toward the Yungas region will pass through this place, thereby opening a modern outlet for many tropical products that are now transported to the capita by primitive methods. Note the growing crops on the fertile hillsides.



Photo by I. F. Scheeder.

SCENE IN THE YUNGAS REGION OF BOLIVIA.

Present method of transporting products to market. Along approximately the same route the railway is now being constructed. Probably next year the road will be in operation and primitive transportation relegated to the past.



Photo by L. F. Scheeler.

A PICTURESQUE LANDSCAPE IN THE YUNGAS REGION.

Yungas coffee has become famous for its delicious flavor and other pleasing qualities, but in the past transportation has been tedious and expensive. The new railroad now building through these beautiful valleys will provide quick freight service for larger quantities of coffee and other foodstuffs.



IN THE YUNGAS COUNTRY, BOLIVIA.

In its strictly legal sense, Yungas is a Province of the Department of La Paz and includes within its area the highest peaks of the Bolivian Andes, such as Illimani, Mururata, Huaina, Potosí, and others. In its more generic sense, Yungas is used to mean the valleys among the foothills of the eastern slope of these mountains, a rich agricultural country watered by the affluents of the Amazon. Yungas has a heavy rainfall and in part is excessively hot.

In time Bolivia hopes to continue the Yungas road to Rurrenabaque or to some other point on the navigable waters of the Beni. The recent participation of Chandler & Co., the New York financiers, in supplying funds for the Yungas road is significant; and the appointment of this firm as fiscal agents for Bolivia in the United States no doubt will result in placing still more American millions in Bolivian enterprises.

By glancing at the railroad map of Bolivia the reader will see the dotted line in the extreme northern part of the country, connecting the town of Riberalta with the Mamore-Madeira Railroad. The line represents a proposed railroad, slightly more than 100 miles in length, which when constructed will afford Bolivian rubber a quicker and cheaper outlet to the Amazon by connecting the Beni River with the railroad around the rapids of the Madeira, which has been in operation for several years. When we link the present demand for rubber with the fact that a well-known English authority, after visiting the Bolivian rubber forests, estimated that in the region of the Beni River alone there are at least 50,000,000 rubber trees that have not been tapped, we are almost amazed at future possibilities. The railroads, therefore, by providing access to this river from both northern and southern ends have a vital bearing on the transportation of larger quantities of rubber to world markets; and instead of Bolivia selling annually about 5,000 or 6,000 tons of this product, as at present, the amount eventually will be greatly increased.

Still another railroad on which construction work recently commenced is the line from Potosi to Sucre, a distance of about 150 miles. For several years a number of automobiles have transported passengers and freight between these inland cities, but the increased world-wide demand for minerals, which abound in the region traversed by the present motor highway, caused the Government to undertake the construction of a railroad. As construction work advances on this road it will naturally cause new mining properties to be investigated and exploited; and it is reported that citizens along the route are anticipating the newer transportation facilities by becoming active in certain mining developments. Some of the mines which were formerly worked by primitive methods and were finally abandoned on account of the high freight rates to markets will, like many other properties in South America, be reawakened by the echoes of the modern locomotive.

From the interior city of Santa Cruz already mentioned, a railroad is proposed to run southward via Yacuiba to tap the Argentine system of roads at Embarcacion, a distance of several hundred miles. This route is to-day the outlet for a considerable llama and mule train commerce. In this region of Bolivia petroleum exists; and the recent formation of a company by Chilian and other capitalists



Photo by I. F. Scheeler.

A PICTURESQUE POINT ON THE HIGHWAY BETWEEN POTOSI AND SUCRE.

For several years motor cars have been used as passenger and freight carriers between these two cities. A few months ago construction work was started on a railroad which ere long will span the distance of about 150 miles.



TYPE OF LOCOMOTIVE USED ON BOLIVIAN RAILWAYS.

Extreme altitudes of some of the roads, which are nearly 16,000 feet above sea level, require specially planned steam-producing facilities in the engines.



Photo by L. F. Schaefer.

A HIGHWAY SCENE NEAR SUCRE.

The strange contrast between modern automobile transportation and the slow and stately tread of the llama caravan offers many amusing incidents. In the picture the motor car in passing has quite disorganized the llamas and the attendants are endeavoring to collect their frightened beasts. Eventually a railroad is to displace the motor car used to-day.



A WELL-CONSTRUCTED BRIDGE IN THE INTERIOR OF BOLIVIA.

This suspension bridge spans the Grandeon River on the highway between Sucre and Cochabamba, Bolivia. Proposes ere long to construct a railroad between the two cities following the present roadway.

Photo by I. F. Scheeler.

THE MOTOR CAR SUCCEEDS THE MULE TEAM.

On the highway between Alocha and the Argentine border town of La Quiaca, a distance of about 130 miles, the picturesque mule team has recently been replaced by the motor car. The latter is soon to give way to the modern railroad now under construction along this route. In the meanwhile the automobile covers the distance in 8 hours instead of the stage time of more than 2 days.



to sink a number of wells and otherwise exploit the oil industry may have a decided bearing in introducing additional foreign capital to southern Bolivia.

The cost of Bolivia's present 840 miles of railways has been enormous. This one fact answers the oft-repeated question as to why have not roads been builded with greater activity. Those who have never looked upon the mighty abyss can not imagine its depths; likewise the average person who has not traveled in the Alps or the Andes can hardly conceive of the construction problems that have confronted engineers in Bolivian mountains. Such problems have not only called for the highest degree of professional skill, but also for vast financial outlays. A specialist who made a study of Bolivian railways has figured that the average cost of her roads has been about \$50,000 per mile. Compare this expense with the laying of ties and rails over prairie lands such as we see in Kansas, Indiana, or on the pampas of Argentina, and we can readily understand why the railroad multiplies its mileage over the smooth regions of the earth but enters the high and difficult mountains with comparative slowness. In other words, the building of roads to tap Bolivia's minerals has called for a far greater outlay than will be the case with the new roads now planned to penetrate the low and level lands; hence railroad building in the future is likely to proceed more rapidly than in the past.

Looking at Bolivia from an unbiased point of view, the capitalist seeking foreign investments has in this Republic an inviting field. He has first of all the story of a well-governed country, which has enjoyed peace and progress under the rulership of aggressive men. In August last Gen. Montes handed over the reins of government to his successor, Don Jose Gutierrez Guerra. The new chief executive, like his predecessor, has long served his country at home and abroad and brings to the high office a familiarity with world conditions and progress acquired during residence in various lands. By profession a banker, with a long record of successful achievement, President Guerra starts his administration at a time when all the world is calling loudly for the products of Bolivia; at a time when her citizens are more active than ever before in development enterprises, and also at a time when fortunes have been made overnight, so to speak, from the deposits nature placed within her boundaries. President Guerra no doubt will be just as strong an advocate in advancing the country's communication facilities as his predecessors, and during the next few years we may expect to see the completion of the several railway lines now building and other lines started to still more remote regions of the country. For the first time in Bolivia's history her exports have during the past year exceeded in value 100,000,000 bolivianos, and as the newer facilities multiply this amount must be replaced by larger exportations.

SCIENTIFIC TEACHING OF SPANISH AND OTHER LANGUAGES

THREE are some 50,000,000 peoples to the south of us whose official language is Spanish, whose early culture and learning were inherited from Spain, whose territory extends from the Rio Grande to Cape Horn, comprising an area equal to that of Brazil and of the United States combined, divided into 18 independent Republics, each with its own peculiar ambitions and characteristic traits. These people are our neighbors and our friends. Our relations with them are of the greatest importance, whether commercial or political or of other character. We should know them as neighbors and respect them as such. An investigation as to what efforts are being made by the leading colleges, technical schools, and universities of the United States to provide instruction in Spanish and Portuguese, demonstrated that 97 of the 112 institutions selected from 622 colleges, universities, and technical schools provide for instruction in Spanish, but the aggregate number of hours provided for is less than one-third the number provided for in German. And most of this instruction is in the early or classical Spanish, and serves little or no purpose in the way of bringing the student to a more adequate and sympathetic understanding of these 50,000,000 people with whom our relations should be and will of necessity become more and more intimate.

There are some 25,000,000 people to the south of us whose official language is Portuguese, whose early learning and culture were inherited from Portugal, whose friendship for us is traditional, whose political and commercial relations with us increase in importance from day to day. Brazil, with her vast territory and rich resources, occupies a position of very great importance in South America. Only 10 of these 112 institutions have provided for instruction in the language of the people of Brazil, and these 10 institutions provide for only 12 courses, aggregating only some 1,116 hours of instruction, or 1 per cent of the number of hours of instruction provided for in German.

The people of Russia number some 180,000,000, no less than that of all America, while the area of this great country comprises some

¹ By Harry Erwin Bard, Ph. D. Columbia, and secretary of the Pan American Society of the United States.

8,500,000 square miles, or about one-seventh of the total land surface of the globe. It is not unreasonable to expect that for trade and commerce after the war Russia will become one of the most important fields in the world open to Americans. Five of these 112 institutions are offering courses of instruction in Russian, aggregating only some 792 hours in all.

The friendship between the peoples of China and America has manifested itself in many ways. The Chinese number some 320,000,000, while the area of their country reaches nearly 4,000,000 square miles. Our interest in the Philippine Islands makes China our neighbor. Our commercial relations with the Chinese already developed ought to and will become of rapidly increasing importance. There must be thousands of students in America who would take due advantage of proper opportunities to learn more of her history, literature, language, social customs, and institutions, that they may be prepared to take advantage of opportunities opening in that country. Two of these 112 institutions offer courses of instruction in Chinese, aggregating a total of 540 hours.

A little more than half a century ago Japan was practically an undiscovered country; her people had little or no intercourse with the outside world; they had no part in the world affairs. To-day Japan is a world power; her people are known and respected in every land; her ships carry her flag into every open port. For various reasons our relations with Japan are complex and are likely to become more so; but they are friendly, and should always remain so. We need to understand the Japanese better; their history, literature, and language should be more widely studied and appreciated by the American people. Out of 112 of our most important educational institutions just 1 offers instruction in Japanese, a single one-half year course of two hours a week.

Americans are known the world over as a people of one language. In most countries the mastery of at least one foreign language is considered an indispensable element of culture, and has long been so considered. But most Americans would appear to think it ludicrous that they should be expected to speak any other language than English; relatively few Americans pretend to have a speaking knowledge of any language other than their native tongue. This is an unfortunate condition. During the long period of our isolation the matter of foreign-language study was of comparatively little practical importance, but with our rapidly growing intercourse with other peoples of the world foreign-language instruction comes to demand preferential consideration.

Experience in observing Americans in different parts of the world trying to make their way under the handicap of ignorance of foreign languages, the embarrassing positions in which they often find

themselves, their difficulties in understanding the psychology, social practices, and customs of foreign people; the difficulties which those at home whose interests bring them into relations with foreign peoples; experience in finding men with adequate foreign-language training, lead to the conviction that our educational institutions are failing to meet their obligations in this important particular and emphasizes the importance of an adequate knowledge of the relevant facts. A careful study of the announcements of language courses provided for in 112 of these institutions shows, in the first place, that foreign languages of high importance are not provided for at all or are provided for only inadequately, and that an undue amount of time is devoted to languages which, under the present changed or rapidly changing conditions, are of only restricted interest. That the time and money expended for foreign-language instruction are out of all proportion to the results achieved seems also clear.

One hundred and twelve colleges, universities, and technical schools selected almost at random from 622 such institutions in the United States are fairly representative and have provisions for foreign-language instruction. Some 442,400 hours of instruction in foreign languages are provided for in these 112 institutions, according to their latest announcements; and the total number of hours provided for in all the institutions of similar grade and character in the country probably exceeds 2,500,000. In this estimate some 140 schools of law, theology, medicine, dentistry, pharmacy, veterinary medicine, and normal schools above the rank of the high school are not included, nor are included the 1,500 or more high schools and many private academies of similar grade in which usually foreign-language instruction is amply provided for, owing largely to the relations to the higher institutions which these hold as preparatory schools.

The translation, philological, and exegetical method of foreign-language instruction elaborated four or five centuries ago is still more or less slavishly followed in most of our educational institutions of to-day, with the result that students, even after long years of laborious study, fail of that mastery of the language which modern conditions demand and will continue to demand more and more. Not only this, but students are practically obliged to devote a very large proportion of their time available for language study in the study of languages from which the great majority of them will derive little or no practical benefit.

Nearly 85 per cent of the some 442,400 hours of instruction in foreign languages provided for in the 112 institutions examined is devoted to the study of Greek, Latin, French, and German directly, and most of the other 15 per cent indirectly. Some 38,000 hours of instruction in Spanish are provided for and some 14,000 hours of instruction in Italian; but these languages are used largely as an

aid to the study of French, although there are now a few institutions in which provisions are made for so-called commercial Spanish. The fundamentally important aim of foreign-language instruction, namely, a mastery, a speaking and writing knowledge of the language, is almost nowhere recognized.

Greek and Latin had already ceased to exist as spoken languages when they were introduced into the school curricula some centuries ago. But they were the languages in which the chief lore of the ages was concealed. History, philosophy, theology, literature, and science were recorded almost exclusively in these languages. They constituted the only highway to learning, and necessarily came to occupy important places in the school curricula immediately following the Renaissance. No longer being spoken languages, the method of instruction was translation based on a laborious study of the dictionary and grammar. The aim was to set free the learning concealed in these languages, rather than that mastery necessary for the expression of original ideas. The method suited the purpose.

When French and German began to achieve prominent places in the school curricula of this country some five or six decades ago they were indeed spoken languages, but this fact was and still is largely ignored. They were the languages of modern science and learning, as Greek and Latin were of ancient learning and science. The method of instruction adopted did not differ in general from the method in use for Greek and Latin. This was logical, for the aim or purpose was similar. This method evolved centuries before in teaching Greek and Latin, and adopted literally in teaching French and German still obtains, and is commonly used whatever the language or the chief purpose of instruction.

If we concede that the sole object of teaching Greek, Latin, French, and German is that implied in the method employed, the reason for teaching them no longer exists, for the great mass of students. No one would seriously advocate ignoring the literature and learning of the Greeks and the Romans, but it is no longer necessary to spend years in acquiring a translation knowledge of the Greek and Latin languages to this end, any more than it is necessary for the mathematician laboriously to work out the logarithms of numbers instead of referring to tables of logarithms already available in convenient form for his use. There exist today excellent translations in English of practically all that is of worth that has appeared in these languages, and is easily available to the English reader. The same is true in a somewhat less degree in the case of French and German. Not infrequently works of importance written originally in these languages appear in the original and in English translation simultaneously.

The weakness of the method and object pursued in teaching these languages is seen in the arbitrary measures resorted to by most of our educational institutions in order to secure the attendance of students upon instruction in them. Whereas the study of modern languages properly taught should be one of the most attractive, interesting, and profitable subjects any student could pursue, it is found that only by artificial measures can most students be induced to pursue these foreign language studies as at present provided for. Not only are students required to pursue Greek, Latin, French, or German in these higher institutions, but a certain number of years of study of one or more of these languages are required for entrance to them, thus obliging the secondary or preparatory schools to provide accordingly. The student's previous training, the extraordinary provisions for teaching these languages, and the woefully inadequate provisions for teaching other languages, together with the prestige otherwise given the former easily influence the student, often against his better judgment, to matriculate for courses in these languages even where options are allowed.

Some 92 of the 112 institutions whose announcements were examined require Greek or Latin or both for entrance; 31 require French or German or both; and 58 require a modern language, which usually means French or German. Some institutions are now accepting Spanish as a modern language, and a few also Italian. But these and other important languages can not hope to secure the attention they deserve except through a general readjustment of language courses, with frank recognition that the Greek and Latin languages are fit subjects of study only for the few, for which provisions should not be made except in the college and graduate school. Arbitrary measures affecting courses in French and German should be removed and these languages placed on a par with other important modern languages, and the primary object in teaching all modern languages should be a complete mastery of them and the intimate knowledge of the social life and customs of the people who speak them which this implies, and no longer a mere translation knowledge such as is the aim at present.

The total number of languages provided for in these 112 colleges, universities, and technical schools is 21, including Irish, Scotch, Welsh, Breton, Bohemian, Polish, and others which are not official or national languages, but for the most part simply dialects. The other foreign languages provided for besides Greek, Latin, French, and German, which occupy such prominent places in the curricula of these institutions are Spanish, Italian, Scandinavian, Turkish, Portuguese, Roumanian, Russian, Chinese, Dutch, and Japanese.

Some 92 of these 112 institutions provide for Latin, 96 for Greek, 108 for French, and 110 for German; while only 10 provide for

Portuguese, 5 for Russian, 2 for Chinese, and only 1 for Japanese. The total number of hours of instruction provided for by these 112 institutions is 76,572 in Greek, 89,312 in Latin, 89,496 in French, and 117,216 in German. The total number of hours of instruction in Japanese is 36, in Chinese 540, in Russian 792, in Portuguese 1,116. In the first four of these languages no less than 372,596 hours of instruction are provided for, while the total number of hours of instruction provided for in the other four is only 2,556. There is certainly to-day no sufficient ground on which to defend this condition. Granting the strongest claims made for Greek, Latin, and German, the claims for Portuguese, Japanese, Russian, and Chinese can not be as relatively insignificant as suggested by these figures.

After German, French, Latin, and Greek the next foreign languages given major attention are Spanish, Italian, Scandinavian, and Turkish, for which 38,124, 14,184, 9,468, and 1,800 hours of instruction are provided. The proportion of institutions providing for Spanish is now surprising, but the number of hours of instruction provided for is less than one-third the number of hours of instruction provided for in German. Although the importance of instruction in Spanish appears to be rapidly gaining wide recognition, practically no institutions have as yet made the adequate provisions for Spanish which its importance to the great majority of American students demands. Italian is taught very largely for the benefit of students whose major interest is in French; this was true also of Spanish until recently, but now some of the instruction in Spanish is professed to be for "commercial" purposes. Instruction in Scandinavian is limited very largely to institutions of the Central West, where the immigrants from Scandinavia are numerous and their influence is especially felt. Instruction in Turkish is provided for only in Columbia University and the University of Pennsylvania.

Only 2 of the 10 institutions offering the largest number of hours of instruction in Greek are among the 10 offering the largest number of hours of instruction in Spanish; and none of the 10 institutions offering the largest number of hours in Latin are among the 10 providing for the largest number of hours in Spanish. Greek and Latin still predominate in many of our institutions, but there is abundant evidence that they are yielding to an insistent demand for modern languages. German and French are taking the places of Greek and Latin in many instances, but the champions of German and French are no more favorable to other modern languages, except as auxiliary studies, than are the champions of the classics.

There is just now being made another strenuous attempt to bolster up a defense of Greek and Latin. These languages should be studied unquestionably, and adequate provisions should be made for instruction in them. But the study should be optional, and the places of

instruction in the college and graduate school, and not obligatory or in the high school. These languages should be studied by those who can afford or have leisure for such study or whose future careers will require of them such study and not by those who seek primarily a liberal education or those who desire to pursue other careers.

No people in history has had suddenly opened to it the vast opportunities for great achievements in world affairs as are open to the people of America to-day. Preparedness for peace is of no less importance than preparedness for war; we should not be found wanting in both. There should be no monopoly of the international mind, but an international mind based on sentiment merely or ignorance is dangerous.

Our higher institutions of instruction are confronted with responsibilities, which should be met promptly and effectively. A proper readjustment of provisions for foreign language instruction with obvious and necessary reforms will prove an important step in this direction. Courses in history, geography, literature, government, and institution also need readjustment; but in the case of language courses the need is immediate and imperative.

The average student with a mastery of the language of a people, as is here contemplated, will not be without sufficient interest and incentive to pursue other studies necessary for proper intercourse with them. His preparation also will be such as to enable him to pursue to the very best advantage such studies.

The United States is no longer an isolated nation, but a world power with world relations of the most intimate and complex character. Intercourse with other peoples is not now merely desirable but necessary. Our people are going to other lands in rapidly increasing numbers, not as immigrants, but as diplomats, competent experts, captains of industry, traders. The success of their enterprises depends very largely upon their preparedness for social intercourse with people whom they should meet, through a mastery of languages, intimate knowledge of social practices or customs, appreciative understanding of the culture and psychology of other peoples, and a large measure of human sympathy.



PAN AMERICA IN THE MAGAZINES

Oswaldo Cruz, the great Brazilian physician and sanitary expert, forms the subject of an interesting sketch by William C. Wells, chief statistician of the Pan American Union, which appeared in the October number of the United States Naval Medical Bulletin (Washington, D. C.).



DR. OSWALDO GONÇALVES CRUZ.

Dr. Oswaldo Gonçalves Cruz, the great Brazilian physician, sanitary expert, and scientist, was born August 5, 1872, at São Luiz do Parahytinga, State of São Paulo, Brazil. He was the son of Dr. Bento Gonçalves Cruz, at one time the director general of hygiene, also a noted physician of Brazil. The younger Cruz obtained his diploma in medicine in 1892 from the faculty of medicine of Rio de Janeiro, and immediately entered the National Institute of Hygiene to begin his studies in bacteriology. Four years later he went to Paris and entered the Pasteur Institute. In 1900 he was recalled by his country to take charge of an institution for the preparation of antiplague and other serums. In 1903 he was appointed director general of the office of public health of Brazil. In three years he succeeded in eradicating yellow fever and other tropical diseases from Rio de Janeiro, gaining not only the everlasting gratitude of his native country, but also international fame. He was placed at the head of the Oswaldo Cruz Institution for Experimental Pathology and Serumtherapeutics at Manuinhos, named so in his honor, in 1908, a position he held until his death in Rio de Janeiro on February 11, 1917.

Constantine chose this site for the capital of the world, it is Rio, blending of hill, mountain, and valleys clothed in tropical verdure on the shore of that almost landlocked, island-studded bay that the

United States Naval Medical Bulletin (Washington, D. C.). Mr. Wells gives such a comprehensive and informative account of the remarkable redemption of Rio de Janeiro from the curse of such tropical diseases as yellow fever and plague through the effective work of Dr. Cruz, that the article is herewith reproduced in full:

To one who has seen Rio the old controversy, centuries old, as to whether it is Naples or Constantinople which occupies the most beautiful site of any city in the world loses most of its interest and all of its point. Neither Naples, beautiful as it is, with its broad, sweeping bay, the islands of Capri and Ischia, the amphitheater of hills rising over the brightly colored crescent city; nor Constantinople, whether seen from the south and through the early morning mist across the waters of the Sea of Marmora, an enchanted city of blended hills, minarets, and towers rising above that domed glory of Byzantine art, Hagia Sophia, the Church of the Holy Wisdom, or from the north, as from the hills above the Golden Horn one sees a wonder stretch of city, harbor, and distance-fading waters that has charmed every beholder since

earlier navigators imagined was a river's mouth, the River of January—Rio de Janeiro. The volcanic hills of Naples are bare alongside this rich outpouring of nature's wealth. Even Hagia Sophia fades from memory as one looks on Corcovado, and the minarets of the Mosque of the Conqueror, Mohammed II, are nothing in comparison with Rio's more beautiful minarets, the stately royal palms that watch over the many-colored city.

But for half a hundred years or more Rio was shunned. The voyager who would fain gaze on its beauties threw a cast with Death. Plague slew its thousands, but fever—above all, yellow fever—slew its tens of thousands. Yellow fever was first recognized in Rio in 1849, in a case said to have been brought from Bahia. For 60 years thereafter it ravaged the city and the environs. "To go to Rio is to commit suicide" was a saying among all shipping folk. Dr. Theophilo Torres, vice president of the Brazilian National Academy of Medicine, in his work published in 1912 (in French), *La Campagne Sanitaire au Brésil*, gives tables showing the number of deaths from yellow fever from the time of its first introduction into Rio December 27, 1849, up to its extinction in 1908. These numbered 59,069 for the city proper, not counting the suburbs. In the epidemic which marked its first appearance (i. e., for the year 1850) the deaths were 4,160. This figure was not again reached until the epidemic of 1891, with 4,456 deaths. In 1892 the number was 4,312 and in 1894, 4,852, the highest number attained in any one year. In 1853 there were 853 deaths, which was considerably more than half the number for the preceding year. In the year following (1854) there were only 22 fatal cases and in 1855 only 3. This was a period of hope for Rio, but in 1856 there were over 100 deaths and in 1857 nearly 2,000. Again, in 1862, the fatalities fell to 12, in 1863 to 7, in 1864 to 5. In 1865 there were no fatalities and the disease apparently disappeared, for there were no reported cases until 1868, with 3 deaths. In 1870 there were over 1,100. An epidemic occurred in 1873 with 3,659 deaths. The interruption of three years, 1865 to 1868, was called by Brazilian physicians spontaneous extinction. It was certainly not due to any recognizable sanitary measures.

In the four years from 1891 to 1894, inclusive, there were 14,445 deaths from yellow fever, and this is the period of its greatest intensity. From 1894 until the advent of Dr. Cruz the number of deaths rose above a thousand a year only twice, in 1896, 2,929, and in 1898, 1,078. During the 60-year period of the scourge the authorities were not inactive. The best medical advice, or what was believed to be such, was taken and then approved methods of sanitation were adopted and put into effect. Twice it was believed that the yellow fever had been done away with—in 1855 and again some seven years later. But the outbreak in the seventies, continuing with unabated violence until and after 1900, proved the mistake. At the last it appeared that Rio had become almost callous and was reconciled to pay the Minotaur's tribute. What this tribute was in deaths alone we have seen, but only of deaths directly due to the disease. The indirect deaths, weakened constitutions, vital losses in every field are unmeasured. The property and industrial losses no one has attempted to enumerate. And what was going on in Rio was only the same as in dozens of other places in central and northern Brazil. The scourge of the yellow terror was over all the land. So little was it believed in Brazil that this scourge could be lifted that when the scheme for the improvement of the port and the beautification of the city of Rio began to take form, about 1890, proposals for the sanitation cut but a minor figure. Not that sanitation was overlooked entirely; results prove the contrary; but a hope that yellow fever could be driven from Rio did not exist in the minds of President Rodrigues Alves and his associates. In the decree of September 18, 1903, the outlined plan for the rebuilding of the port and city was contained in nine proposals, in furtherance of which two loans of \$40,000,000 and of \$20,000,000 were secured. Not one of the nine proposals was directly in the line of sanitation or closely touched the question of eradication of yellow fever. The fifth proposal, for the enlargement



THE FAMOUS "INSTITUTO OSWALDO CRUZ" AT MANGUINHOS, BRAZIL.

Founded by and named in honor of Dr. Oswaldo Cruz, Brazil's renowned physician and sanitary expert, and under his personal direction until his death in February, 1917. The remarkable work of this institution in the field of tropical diseases, its experiments and valuable discoveries, have made it famous in the whole scientific medical world.

of the city water supply, and the sixth, for a revision of the sewage system, bore indirectly upon sanitation. Government reports and newspapers of this period are filled with the plans for reconstructing the port, building of quays, rectification of the canal known as Mangue, opening of new avenues, particularly the magnificent Avenida Central (now Avenida Rio Branco) and the Avenida Beira Mar, but never a word of yellow fever or the mosquito.

In 1900 there was an outbreak of the plague in Rio. It had appeared in October of the preceding year at Santos and in December at São Paulo. In 1900 there were 295; in 1901, 199; in 1902, 215; and in 1903, 360 deaths from bubonic plague in the city of Rio proper. In this last year the deaths from plague were nearly two-thirds as many as the deaths from yellow fever. On the outbreak of the plague the municipality of Rio determined to create an establishment for the preparation of antiplague serum, and Prof. Baron Pedro Affonso, one of the best-known medical authorities in Brazil, undertook the inauguration of the enterprise. Prof. Pedro Affonso went to Paris and consulted Prof. Roux, of the Pasteur Institute, as to the choice of a French specialist to whom should be given the direction of the proposed establishment. The reply of Prof. Roux was that no French specialist was better equipped for undertaking this work than one of Prof. Pedro Affonso's own compatriots, a young Brazilian, Dr. Oswaldo Cruz, at that time engaged in special bacteriological work in the Pasteur Institute. Truly, a prophet is not without honor save in his own country.

Oswaldo Gonçalves Cruz was born on August 5, 1872, at São Luiz do Parahytinga, in the State of São Paulo, but removed to Rio in 1872. He was the son of Dr. Bento Gonçalves Cruz, at one time director general of hygiene. Oswaldo Cruz obtained his diploma in medicine in 1892 from the faculty of medicine of Rio. Immediately thereafter he entered the National Institute of Hygiene, founded by Prof. Rocha Faria, and began his studies in bacteriology. In 1896 he went to Paris and entered the Pasteur Institute. His work was mainly in the laboratory of toxicology and he became widely known to specialists through his experiments and studies in this field. He published studies on the toxic properties of the castor-oil bean, a method of discovering the toxic properties of lighting gas, the Florence reaction and a pathologic history of poisoning by the castor-oil bean.

The work of the American commission in Cuba in the sanitation of Habana, Santiago, and other cities early attracted attention in Paris. The new theory that the mosquito was the yellow-fever conveying agent, demonstrated by the work of the commission, had in Oswaldo Cruz one of its earliest believers. In Paris he had followed carefully the experiments of the American commission, and, as Dr. Torres says, he became absolutely convinced that the stegomyia mosquito was the agent in the propagation of yellow fever. He believed that what had been accomplished in Habana might be duplicated in Rio. On his return to Brazil he communicated these views to President Rodrigues Alves and found in him a sympathetic auditor. The matter of the manufacture of antiplague serum was not lost sight of; on the contrary, the fight on the plague was the first work undertaken. Meanwhile Dr. Cruz was almost daily conferring with President Alves and urging a plan for the general sanitation of Rio, and in particular a campaign against yellow fever, all of which was to be undertaken in connection with the city and port improvement plans. President Alves heartily approved Dr. Cruz's plans and appointed him director general of the office of public health. This was in 1903. Dr. Cruz's connection with this office lasted five years—until 1908.

"Give me the proper authority and a sufficient force and means to work with, and I will rid Rio of yellow fever in three years," he told President Alves. To many this seemed a rash promise on the part of a young man just past 30 years of age, with no special reputation as a yellow-fever specialist and no special knowledge of the disease or its methods of propagation. But Cruz fervently believed in the results obtained by the American commission in Cuba and in the theory that underlaid the

work of this commission, and Alves believed in Cruz. Authority was given, new laws were enacted, money was provided and Dr. Cruz began the organization of his staff of workers. All of the old measures in force for controlling yellow fever were abandoned. Everything was centered in one purpose, to exterminate the mosquito and to prevent mosquitoes from having access to infected patients. On April 20, 1903, less than 30 days after Dr. Cruz's appointment as director general of the office of public health, the first case of yellow fever was rigorously isolated in Rio, based on the lines adopted by the American commission in Cuba. Dr. Cruz's staff at first consisted of 75 physicians, a number of students, and a large force of laborers. The brigade was scattered over the whole city, but located especially at points where breeding places of mosquitoes were known or suspected to be. All of these places were cleaned out and the larvae of the insects destroyed. Obligatory notification of all cases of yellow fever formed part of the existing sanitary regulations of Rio, but, as has been pointed out by Dr. Torres, by Dr. Sampaio Vianna, chief of the demographic section of the office of public health, and others, this law had not proven effective. Dr. Cruz asked the Government to pass a law which would render such a declaration compulsory and enforceable, under pains and penalties for concealment or prevention of notification. This law was passed on March 8, 1904. The prophylactic procedure to be followed included notification, isolation, disinfection, and medical vigilance or supervision. In addition to yellow fever, the following diseases were added to the category of compulsory notification: Plague, cholera morbus, all cholericiform seizures, smallpox, diphtheria, puerperal fever, ophthalmia in newly born infants, typhus, typhoid, leprosy, consumption, malarial fever, beriberi, scarlatina, and measles.

In 1903 there were 584 deaths from yellow fever in Rio. The disease was stamped out entirely by 1908. In 1903 there were 360 deaths from the plague; in 1908, 54; and in 1912, none. When Dr. Cruz in 1908 resigned the position of director general of public health to assume the headship of the Institute of Tropical Diseases, now known as the Oswaldo Cruz Institution for Experimental Pathology and Serumtherapeutics, at Manguinhos, Rio was freed from the scourge of yellow fever and near to being free of the plague. He had become a world figure, although perhaps better known in Europe than in the United States. It should have been the other way. It is not necessary to make comparisons between the work done in Cuba and Panama and that in Rio, but it should not be lost sight of that Rio has a population much greater than the combined populations of Habana, Santiago, Panama, and Colon, and the work of Dr. Cruz was not confined to Rio, except in the beginning. It soon extended over nearly the whole of Brazil. His campaign against yellow fever was the most extended work of this kind that has yet been undertaken and it was completely successful. When he did not himself personally supervise the work his assistants did or his methods were followed. These methods, as Dr. Vianna, one of his chief coworkers, has said, were those of the American commission in Cuba, modified by conditions special to Brazilian localities.

The Oswaldo Cruz Institute, so named by the Brazilian Government in his honor,^{*}which was founded and organized by him and was until his death under his management, has acquired a reputation and a standing through its experiments and discoveries which has extended to the whole scientific medical world. It is to be regretted, however, that the work of this institute should be so much better known in London, Paris, Vienna, and Berlin than it is in New York or Washington.

Dr. Cruz died in Rio, February 11, 1917, at the age of 44 years and 6 months. Truly a brilliant and useful life too early ended.

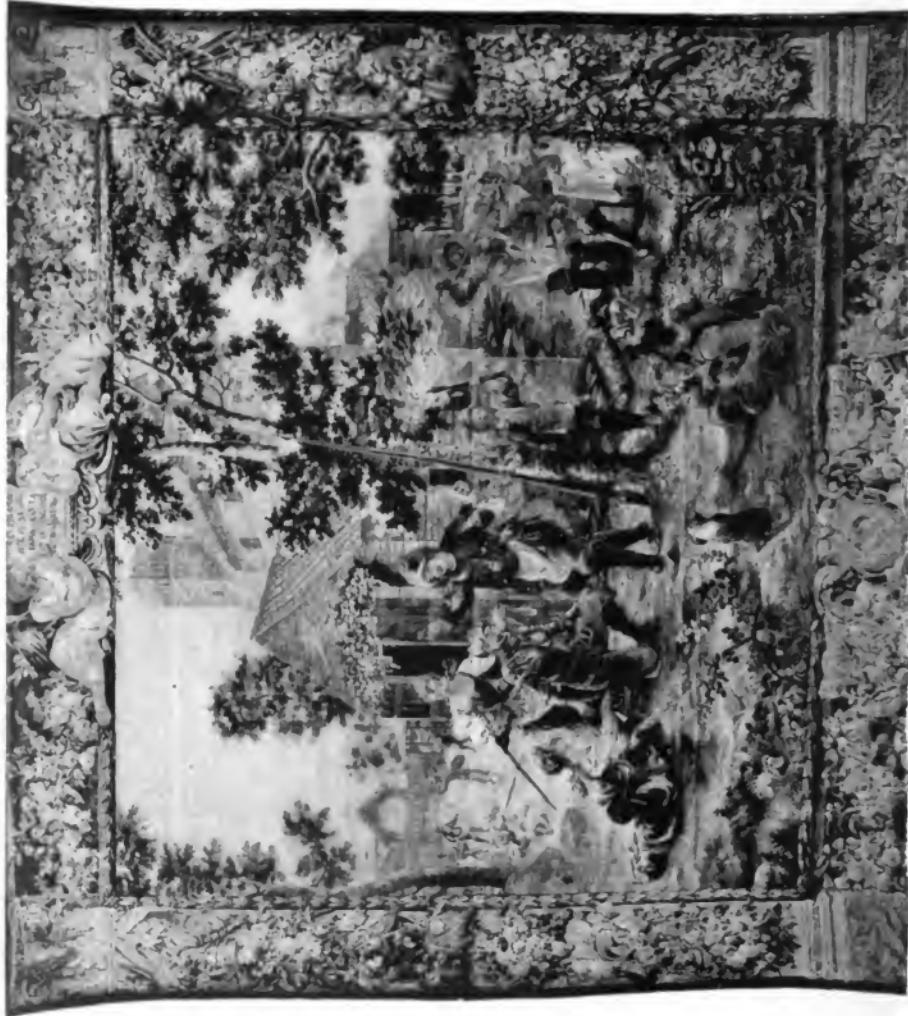
Exhibits of Tapestries and Carpets Loaned by His Majesty the King of Spain is the title of an interesting sketch by the Marquis de Valverde, in the June number of *Art and Archaeology* (Washington,



Courtesy of The Hispanic Society of America.

TAPESTRY DEPICTING A PASSAGE FROM DON QUIXOTE.

Don Quixote is carried on Sancho's ass after the adventure with the Yanguians. Woven by the sons of Jacob Vander-goten, after cartoons by Procaccini.



Courtesy of The Hispanic Society of America.

TAPESTRY DEPICTING THREE PASHAGES FROM DON QUIXOTE.

"Don Quixote is knighted" (Part II, Chap. III), "The innkeeper gives Don Quixote to drink with a red!" (Part I, Chap. II), "The muleteers throw stones at Don Quixote" (Part I, Chap. III). This tapestry belongs to the set entitled "The Adventures of Don Quixote," woven by the sons of Jacob Vanderghen after cartoons by Procassini.

D. C.), which deals with these wonderful specimens of the weaver's art that first came from the home of the industry in Flanders to Spain, and also the history of the royal factory in Spain itself, established by Philip V after the conclusion of the War of Succession.

The tapestries and carpets described, several of which form the subjects of the accompanying illustrations, were first exhibited in the United States at the Hispanic Museum in New York and subsequently in Boston and Washington. Most of these magnificent tapestries had never before been removed from the walls of the royal palace of the Prado since their completion in the eighteenth century, and until they were exhibited in the United States last spring few persons in the country had any conception of their beauty and artistic value.

King Alfonso is of an artistic temperament and very proud of the art production of his country, so the suggestion of Mr. Archer M. Huntington, president of the Hispanic Society of America, that some of these celebrated tapestries be exhibited in the United States met with the Spanish monarch's hearty approval and he permitted a number of his masterpieces to be temporarily taken from their historic home in order that they might delight the people of the great American Republic.

They were sent over in charge of the Marquis de Valverde, who for the time being became their custodian. The marquis was much gratified by the interest and enthusiastic appreciation shown by the thousands who visited the exhibitions, and as a consequence prepared the sketch of the tapestry weaving industry of Spain which appeared in an English translation in *Art and Archæology*, the original Spanish version appearing in the October number of the Spanish edition of the *BULLETIN OF THE PAN AMERICAN UNION*. The facts relative to the establishment of the royal factory in Spain and its history covering a period of almost 200 years can not be reproduced in full in this review, but the following excerpts from the article embody the most important features:

The tapestries and carpets exhibited represent only a mere sample of the production of the royal factory, within a period of, say, from 1740 to 1800. It was preferred in making the selections to represent the different tendencies of the epoch in which they were manufactured, ending with tapestries the canvases of which, being the work of the great Goya, are marked by a genuine Spanish style. There were added to the exhibition a tapestry of Flemish style and three carpets which were recently made for samples, which bear witness to the art and traditions of the factory, which are just as characteristic now as they were in the times of its greatest prosperity.

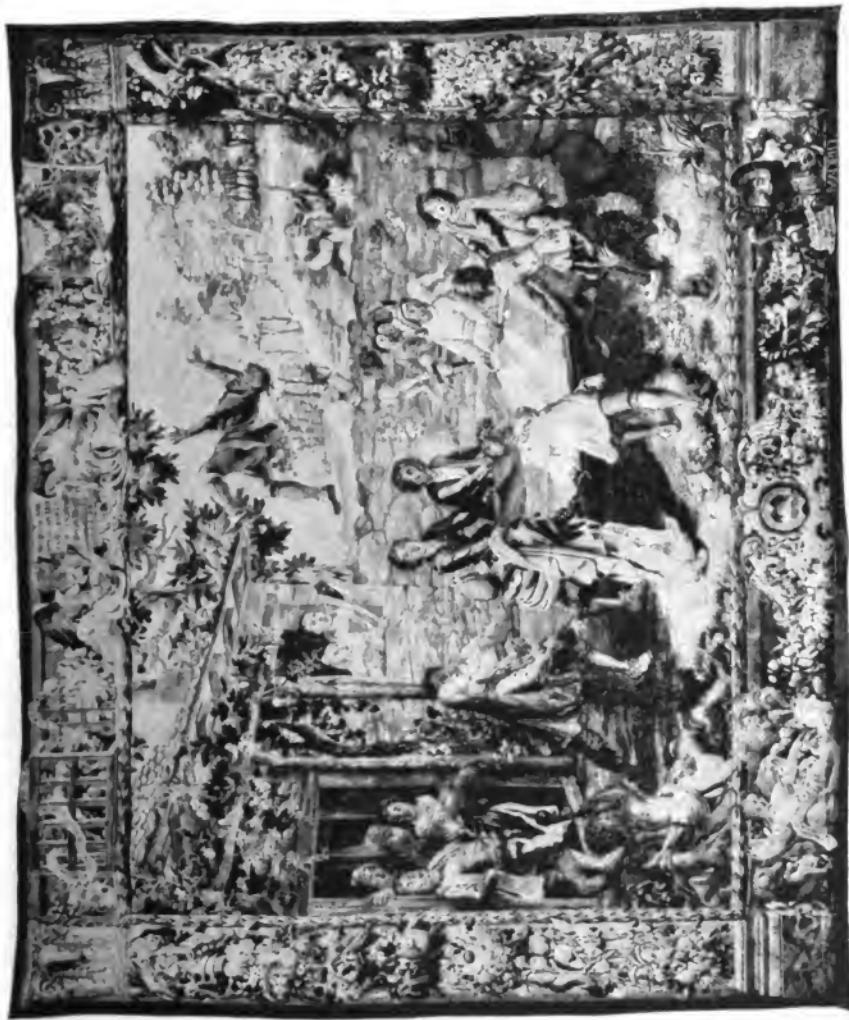
Señor Crusada Villamil, in his work entitled "Los Tapices de Goya," says: "Of all the European courts, Spain is perhaps that which has made greater use of tapestries for the purpose of decorating and covering the rooms of royal palaces. Ever since the successful reign of their Catholic majesties up to that of Don Fernando VII a great number of tapestries appear in the respective testamentary inventories, and upon the death of Charles III there were more than 1,000, both old and modern, tapestries, recorded as having been kept in the royal office of tapestries, or covering the walls



Courtesy of The Hispanic Society of America.

TAPESTRY DEPICTING A PASSAGE FROM DON QUIXOTE.

"The Adventure with the Biscayan." Woven by the sons of Jacob Vandergoten, after cartoons by Procaccini.



TAPESTRY DEPICTING A PASSAGE
FROM DON QUIXOTE.

"Sancho is tossed in a blanket," Woven by the
sons of Jacob Vanderghen after cartoons by
Proeselui. One of the tapestries exhibited in
the United States.



Courtesy of the Hispanic Society of America.

TAPESTRY AFTER GOYA'S CARTOON ENTITLED "BLIND MAN'S BLUFF," WOVEN BY DON SANTIAGO AMOROSO IN 1802.



Courtesy of The Hispanic Society of America.

TAPESTRY AFTER GOYA'S CARTOON "THE PICNIC."

This was the first cartoon painted by Goya for the Royal Factory of Tapestries. It was woven in 1777. A copy was presented to King Leopold of Belgium by Queen Isabella II.

of the palaces at Madrid and other royal palaces. It is well known that the grandees of Spain and the wealthy magnates possessed numerous collections of these tapestries, and it was a common thing to use them in the churches and on occasions of great festivities. * * * They are frequently mentioned in a great many documents of both reigns, being called tapestries in Castile and Ras cloths in Aragon. They came to Castile through France, either by way of the Basque Provinces or by landing at Laredo, being the Flemish tapestries which were imported under those names. The tapestries of Arras came through Barcelona or Valencia to the Kingdom of Aragon. Some were made in Italy, and were shipped from Genoa; others, going through the Straits of Messina, were sent from Venice to the ports of our coasts.

"The town of Arras, in ancient Flanders, was the cradle of this industry. Since the middle ages these tapestries have been exported to Italy, where the cloths from Arras, which the Italians called 'Arrazi,' were received. As they came from Italy the Kingdom of Aragon during its uninterrupted commercial and political relations with that peninsula from the fourteenth century received them under the name by which they were called in Italy. So in Spain they were called the tapestry cloth of Ras."

This much of the story shows that the collection of fine tapestries was something of a hobby with most of the Spanish monarchs even centuries before the establishment of the industry in Spain. As long as Flanders was under Spanish domination there was no difficulty in securing the very best of these artistic works, but after the War of Succession the House of Austria saw to it that no more Flemish tapestries should go to Spain. Philip V, however, upon his accession to the Spanish throne, determined to indulge his taste for tapestries even if he had to start a new industry. The way he carried out his purpose is told by the marquis as follows:

Those palaces which he desired to build would eventually require the incomparable decorations of rich tapestries, and so, bearing in mind the impossibility of bringing new Flemish tapestries, he conceived the idea of establishing such manufactures in Spain.

With the approval of the Cardinal Alberoni, Philip V ordered that all necessary steps should be taken to find in Flanders as soon as possible a tapestry master and such official assistants as might be necessary for the purpose of establishing in Madrid a factory of tapestries similar to those of Flanders. He therefore gave the proper orders to Don Bernardo de Camby, the future superintendent of the factory, to carry out the plan, taking the necessary precautions in the way of a guaranty as to the qualifications of the master whose services should be engaged. Such measures gave the desired results. Jacob Vandergoten, a native of Antwerp, residing in that city, where he also had a factory, promised to come to Spain.

"From a petition (in the archives of the royal palace at Madrid) which the sons of Vandergoten addressed to King Don Carlos III, we take almost literally the following account of some of the events which took place before the installation of the factory, as well as some data concerning its subsequent activities.

Don Jacob Vandergoten did actually come to Madrid, accompanied by his wife and six children, after having been compelled to overcome the great difficulties he encountered because the ministers of the Empire suspected that he wished to leave Flanders. For this reason he was arrested and was confined in the castle of Antwerp for nine months. Not only did they confiscate his estate, but they also seized his magnificent factory of tapestries, which was completely destroyed. He persisted, however, on keeping his pledge to come to Spain, and finally succeeded after exposing himself to much trouble and danger, arriving at Madrid July 30, 1720, where he at



Courtesy of The Hispanic Society of America.

TAPESTRY ENTITLED "THE PROMENAD."

After a cartoon by Goya, painted for the bedroom of the Prince of Asturias in 1778-79; woven by Don Antonio Pujadas in 1788, under the management of Don Livinio Stuyk Vandergoten



TAPESTRY AFTER GOYA'S CARTOON "THE HAW SELLER."

It was painted for the bedroom of the Prince of Asturias in 1778-79, and woven in 1786 under the management of Don Livinio Stuyk Vandergoten.



Courtesy of The Hispanic Society of America.

TAPESTRY IN THE FLEMISH STYLE, WOVEN AFTER A CARTOON BY ANDREAS CALLEJA.
It represents peasants drinking and smoking, a woman washing by a well, some barnyard fowls, and to the right a woman trying to raise a drunken man.



Courtesy of The Hispanic Society of America.

TAPESTRY IN THE FLEMISH STYLE.

It represents the wedding of a couple of peasants at the door of a church. Woven contemporaneously at the Royal Factory of Tapestries. It is a copy of another tapestry presented to M. Poincaré, President of France, by King Alfonso XIII.

once presented himself to Don Bernardo Camby, who in turn presented him to the King. The tapestry factory was ordered to be established in a house near the gate of Santa Barbara. Don Jacobo, his oldest son, and four workmen who had come with him from Flanders, commenced at once the weaving of the tapestries which represent "A Pastime of Countrymen in Flanders," similar to that of Teniers, and a "Hunting of Hawks." These were made from such material as he had managed to bring along with him for this purpose.

As soon as this new establishment became well known in Madrid many Spanish amateurs earnestly sought entrance therein in order to learn and follow this trade; but only six were admitted at that time, although the proper authorization was granted later to admit more applicants. In 1724, after a long illness, Don Jacobo died. The King, who had constantly shown his earnest desire to promote the interests of the factory, ordered that Don Francisco Vandergoten, as the oldest son, should continue to act as master, and that his brothers should also earnestly devote themselves to this trade, notwithstanding the fact that the second of them had already commenced to study painting.

The Marquis then traces the history of the factory down through its varied vicissitudes, tells of the wonderful canvases painted by Goya and woven into exquisite tapestries during the period from 1776 to 1799, some of which were included in the collection exhibited in the United States, and concludes with the following comment on the present status of the institution:

We have seen how, from 1720 up to the present time, there has been traditionally preserved in one family the technical direction of the factory, reestablishing in Spain the production of Flemish tapestries; we observed afterwards how the industry acquired a genuinely Spanish character after Charles III, and that this character has been maintained up to the present time notwithstanding the great difficulties mentioned.

While the artistic methods employed in this factory are eminently traditional, it may be stated that the technical processes used are no less so, because, taken as a whole, the present manufacture is just as it was in the time of its foundation, and the threads which constitute the weft or warp of the weaving are entirely the same as those which were employed 200 years ago, and they are woven by the same process. The silk, wools, and worsted yarns are identical, not only as regards their spinning and quality but also in regard to their origin; the colors—which is a feature of great importance in this industry—are formed from the same materials and mixtures which were used and made in the olden time. The feature of fastness was required as an indispensable requisite in a color or shade, and the ingredients must not eventually attack or affect the silks and wools. Philip V and the general chamber of commerce of the Kingdom realized to such an extent the great importance of the dyeing industry that as early as 1734 it was deemed necessary to create the office of director general of dyes of the Kingdom, an office which, after due consultation with the royal factory of tapestries and other official corporations, was intrusted to Don Manuel de Robles, supervisor of the Dyers' Guild of Madrid.

It is well known that in olden times none of the dyes were used that are used to-day in the modern dyeing industry, and the disappearance from the market of those which were formerly used constitutes for the royal factory—which continues to employ them—one of the great drawbacks which can only be overcome with great effort. The present directors—Don Livinio Stuyk and his sons—putting into the work all the enthusiasm which artistic and family traditions bring to them, are the persons to whom has been intrusted, under the high protection of His Majesty the King, the carrying out of the enlightening and patriotic enterprise of giving new splendor and impulse to the royal tapestry factory established at Madrid.

PAN AMERICAN NOTES

THE SECOND PAN AMERICAN CONGRESS ON CHILD WELFARE.

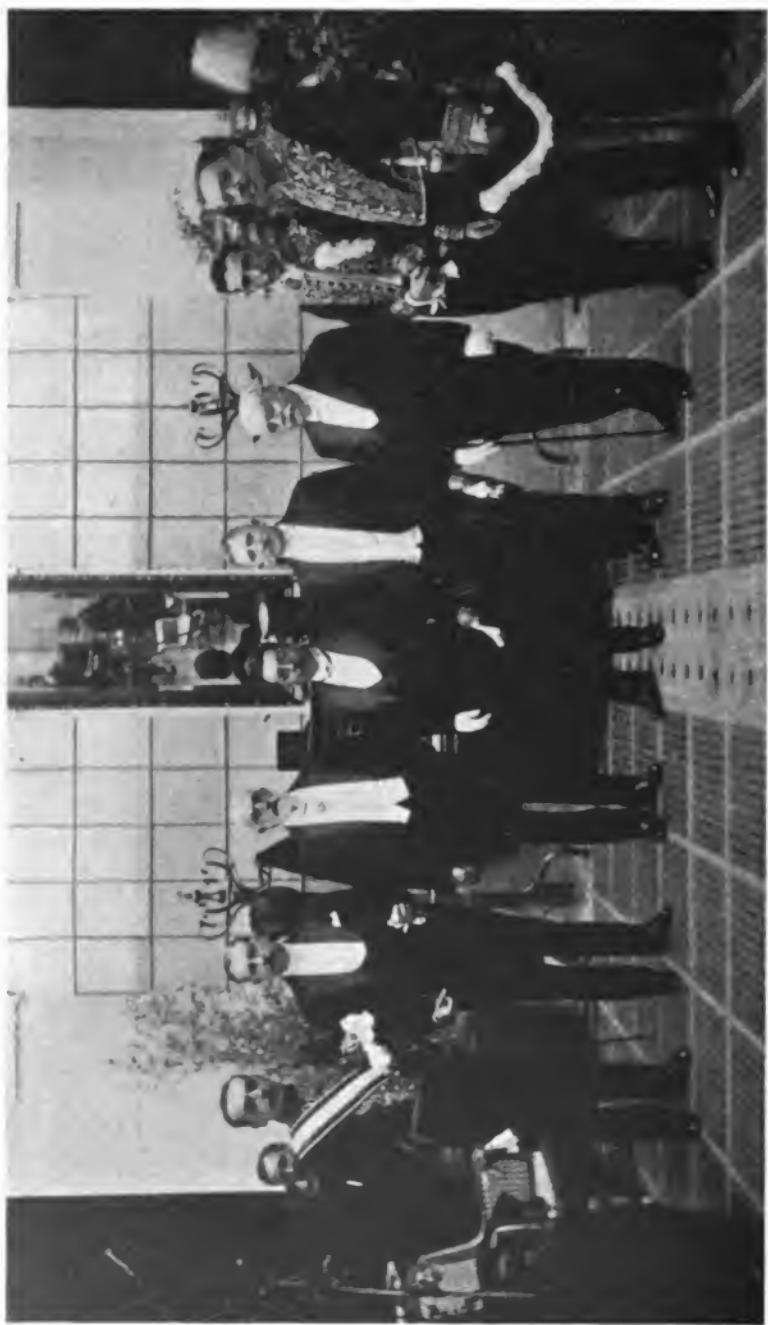
The Pan American Union has received from Dr. Luis Morquio, chairman of the executive committee, a number of copies of the second bulletin of the Second Pan American Congress of Child Welfare, to be held in Montevideo, Uruguay, during March, 1918. The First Pan American Congress on Child Welfare, it will be remembered, was held at Buenos Aires in July, 1916, and the members of that congress selected Montevideo for the 1918 meeting. The executive committee, of which Dr. Luis Morquio is chairman and Dr. Don Andrés F. Puyol secretary, has been hard at work formulating the details of the forthcoming congress. Many features of the program, character, and scope of papers and topics for discussion, etc., have already been worked out and are outlined in the second bulletin. Incidentally, it may be noted that the Congress has been placed under the auspices of the Uruguayan Government by a special decree of President Viera, and the ministry of foreign affairs has been authorized to extend cordial invitations to the other American countries to appoint and send official delegates to the Montevideo meeting. The importance of this congress and its value as a medium for still further promoting cordial relations among the countries of the Americas, particularly in the field of social service, is too apparent to need comment and it is to be hoped that the disinterested efforts of the Uruguayan Government will be met in an appreciative spirit by all of the American Republics, and that each will lend its hearty cooperation by sending large and representative delegations to this momentous international conference. The second bulletin of the congress is in Spanish, and upon application the Pan American Union will be glad to send copies to those interested as long as the limited supply lasts.

BULLETIN ON TRAINING FOR FOREIGN SERVICE.

Training for foreign service is discussed in Bulletin 37, 1917, just issued by the Bureau of Education of the United States Department of the Interior. This bulletin gives an account of the recent conference on this subject, which was held in the city of Washington on invitation of the United States Commissioner of Education in cooperation with the Director General of the Pan American Union, the Director of the Consular Service, the Chief of the Bureau of Foreign and Domestic Commerce, and the organizing secretary of the conference. The bulletin prints in full the addresses of the director of the Consular Service and the president of the National Foreign Trade Council.

GROUP OF SPECIAL AMBASSADORS ATTENDING THE INAUGURATION OF THE PRESIDENT OF BOLIVIA.

The inauguration of Señor Don José Gutiérrez Guerra as President of Bolivia, which occurred August 15, 1917, was marked by the attendance of special ambassadors from a number of the American Republics. In the group pictured above, reading from left to right, are: H. E. Felipe de Osma Y Pardo, special ambassador from Peru; H. E. Fernando Saquier, special ambassador from Argentina; H. E. Daniel Maffos, special ambassador from Uruguay; H. E. Fulencio Moreno, special ambassador from Paraguay; H. E. John D' O'Rear, special ambassador from the United States; H. E. José Manuel Echenique, special ambassador from Chile; H. E. Afranio de Melo Franco, special ambassador from Brazil; and Hon. Moisés Ascaráun, introducer of ambassadors of Bolivia.





CHRISTENING OF A NEW STEAMER TO PLY BETWEEN NEW YORK AND VALPARAISO.

The first of a fleet of vessels that are to ply between New York and Valparaiso, Chile was christened recently at an Atlantic port. Ambassador Aldunate, of Chile, was the principal speaker during the ceremonies incident to the occasion. Among many other eloquent expressions in his scholarly address were the following: "Whilst humanity is being born in a strife more sanguinary and ferocious—than any within the annals of history, the Government of the United States sends to the Government of Chile, to the Chilean nation, and to its sisters on the Pacific, a message of once friendly, feudal, and durable. This vessel to-day plunges into the waters of the Atlantic to carry that message to the Pacific, with the seeds of commerce, instinct with friendship, harmony, and progress. For the messenger I pray that the capricious waters may be propitious, that the treacherous and angry winds may calm their wrath; and that all nature, which has been passing in man's hands her elements of destruction and extermination, may now lend her benevolent and kindly protection to this herald of labor and progress." Among the distinguished Chileans who were especially invited guests of the occasion, in addition to Ambassador Aldunate, were Señora de Aldunate, wife of the ambassador, and who was the lady selected to christen the new vessel; Señorita Aldunate; Señor Rosalia de Morel; Señor Alfonso, Hijo Jr.; Commander Julio Pittiorni, naval attaché of the Chilean Embassy; Major Alfredo Ewing, military attaché of the Chilean Embassy; Señor Don Carlos Castro Ruiz, consul general of Chile in New York and commercial attaché of the Chilean Embassy; and Señor Don Luis Fidel Yáñez, secretary of the Chilean Embassy.

MEMBERS OF THE GUATEMALAN SPECIAL MISSION TO THE UNITED STATES.

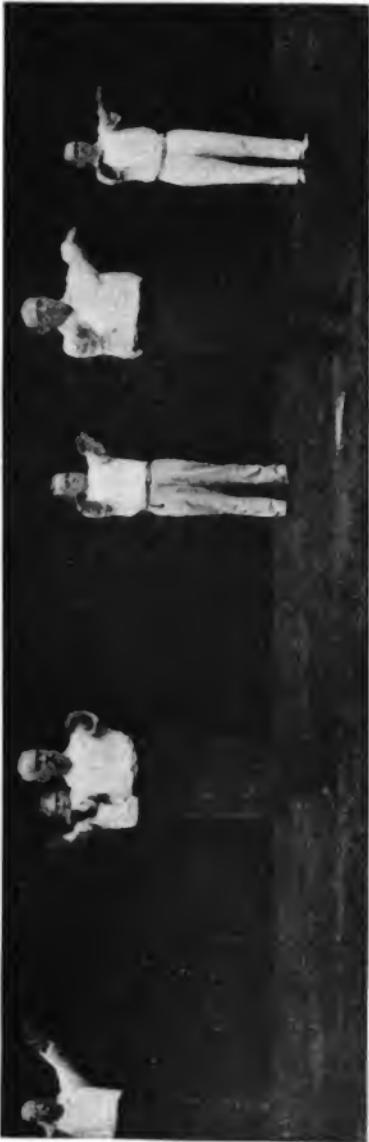
Photo by Harris & Ewing.

The recent visit of the three envoys extraordinary on special mission from the Republic of Guatemala to the United States was the occasion for a number of delightful social functions in Washington. Among these was a formal luncheon given in honor of the surveyor by Director General John Barrett of the Pan American Union. The luncheon was served in the Columns room of the Pan American Building. Hon. Robert Lansing, Secretary of State of the United States, and other high officials of the government, being among the distinguished guests. In the photograph reproduced above, reading from left to right, are: señor Don Claudio Urrutia, noted civil engineer of Guatemala, who has served on various important boundary commissions for his country, former president of the Guatemala Scientific Society, an honorary member of the Royal Hispano-American Academy of Arts and Sciences of Madrid, Spain, and a member of various other learned societies; señor Don Manuel Martí (iron), former mayor of Guatemala City, deputy and secretary of the National Legislative Assembly, and president of the permanent commission of the same, former envoy extraordinary and minister plenipotentiary to Mexico, also to Salvador, Honduras, Nicaragua, and Costa Rica, former director general of customs, and also treasurer general of Guatemala, and an honorary member of the International Academy of Parks, His Excellency Joaquín Mendoza, envoy extraordinary and minister plenipotentiary of Guatemala to the United States, whose distinguished career is already known to readers of the Bulletin; and señor Don Manuel Echeverría y Yáñez, ranking member of the special mission, who is one of the most noted jurists not only of his own country, but of all Central America and who has served his country in legislative, diplomatic, and judicial capacities. He is at present a supernumerary judge of the celebrated Central American Court of Justice; while a member of the National Legislative Assembly of Guatemala he served as a member of the committee on foreign affairs of that body, and, as charge d'affaires, as secretary of various legations, and as minister, he has had extensive diplomatic experience.



HIGH OFFICIALS IN WASHINGTON ENGAGE IN PHYSICAL TRAINING.

The well-known theory that mental ability works to far better advantage when supported by a strong physical constitution has had many varieties among the high officials of the Government at Washington for several months past. Almost at the rising of the sun, or at an hour long before the Government offices are opened for the business of the day, the members of this specially organized class in physical training are at their exercises. The list of members includes cabinet officials and numerous other civil officers, those extra long hours spent indoors, occasioned by the country's strenuous war preparations, has made physical exercise a pleasure as well as a necessity. As an instructor the well-known trainer in college athletics, Mr. Walter Camp, of Yale University, was called into service. He gladly responded not only with his own services but with other specialists needed in instructing the large class. Starting with the rudiments of physical training, the distinguished statesmen, diplomats, millionaires, and other members of the class have made steady and gratifying progress, a fact reflected in the renewed physical vigor of these mature students. Among the most enthusiastic members of the class is Dr. Ignacio Caderon, the minister from Bolivia and the dean of the ministers from the Latin American countries. Upper picture: Extreme left, the minister from Bolivia; next in front row, Assistant Secretary of Commerce Street; next, Assistant Secretary of Interior Voselius; Lower picture: Extreme left, the veteran athlete and instructor, Mr. Walter Camp. Mr. Franklin K. Lane, Secretary of the Interior, is fourth from the end.



AN AMERICAN CHAMBER OF COMMERCE OF MEXICO.

The BULLETIN is in receipt of a prospectus which gives the details of a plan to organize an American Chamber of Commerce in the City of Mexico. The purpose and scope of the organization to be formed is set out in part as follows:

It is proposed to establish a purely commercial and nonpolitical organization which will foment the friendly trade relations between Mexico and the United States, and which, in cooperation with the representatives of the United States in Mexico, will be able to initiate as active a campaign for American trade as is now being carried on by organizations of other countries for their own interests.

To establish a nucleus upon which all American interests may center and present a united front not only toward internal problems of trade, but also, through intercourse with chambers of commerce in the United States, toward the attitude of a great body of American manufacturers who, by reason of misinformation and by inaction, are imperiling their hold on a market which under all economic laws should be inalienably theirs.

To form a clearing house wherein business offered to firms outside of their particular line may be promptly brought to the attention of such firms as are equipped to handle the same.

To establish headquarters in Mexico City for local organization and for affiliation with chambers in the United States and with American chambers in the cities of Latin America and Europe.

The value of such an organization is unquestionable. The experience of the American Chambers of Commerce at Rome, at Buenos Aires, at Rio de Janeiro, and in the Levant have demonstrated that such organizations are potent factors in promoting closer relations of commerce and comity between the respective countries interested, and tend to spread knowledge and understanding among the people of each of the countries as to the social as well as commercial life of the other. It is to be hoped that the efforts of the promoters of the plan will meet with success, and that the American Chamber of Commerce of Mexico will soon be on a firmly established basis.

PAN AMERICAN FELLOWSHIP AWARDED TO MISS VIRGINIA PEREIRA
ALVAREZ, OF VENEZUELA.

In a communication from Miss Gertrude S. Martin, executive secretary of the Association of Collegiate Alumnae, it is stated that the Pan American Fellowship created by the association last April has been awarded to Miss Virginia Pereira Alvarez, of Venezuela, who is now studying at the Woman's Medical College of Philadelphia. Miss Martin writes:

There seems to be no question that Miss Alvarez is capable of doing the kind of work that we expect of our fellows, and that she intends to use her training later in her own country for the service of her own people. We are much gratified at finding in this country a young woman of South America who seems to meet our requirements so completely.

LIGHTING THE FIRES OF LIBERTY.

Copyright by Harris & Ewing, Washington, D. C.

By an official proclamation President Wilson designated October 24, 1917, as "Liberty Day," in order that the people of the United States might make concerted patriotic effort throughout the entire country to subscribe for the bonds of what is known as the "Second Liberty Loan," to raise funds for the prosecution of the war with Germany. The "First Liberty Loan bond issue, amounting to the sum of \$2,000,000,000, was oversubscribed by 50 per cent, something over \$1,000,000 of subscriptions having to be returned to would-be purchasers of the bonds. The second issue, amounting to \$3,000,000,000, was offered to the public on October 1, the period of subscription closing on October 27. On the night of the 2nd bond issue were lighted in open public places in all the cities of the country, as a prelude to the appeal of Liberty Day. Mrs. William G. McAdoo, wife of the Secretary of the Treasury of the United States and daughter of President Wilson, is shown in the picture on the left, touching the button on the left, touching the button which started by an electric flash the great bonfire on the Washington Monument grounds in the National Capital and at the same time flashed the signal for starting all the other similar fires throughout the United States. The picture on the right shows the blazing bonfire in Washington, in whose construction were used many fragments of wood gathered from historic and hallowed places in the country in order to add to the sentiment that these were indeed the "Flames of Liberty" rekindled by the patriotic spirit of the past.

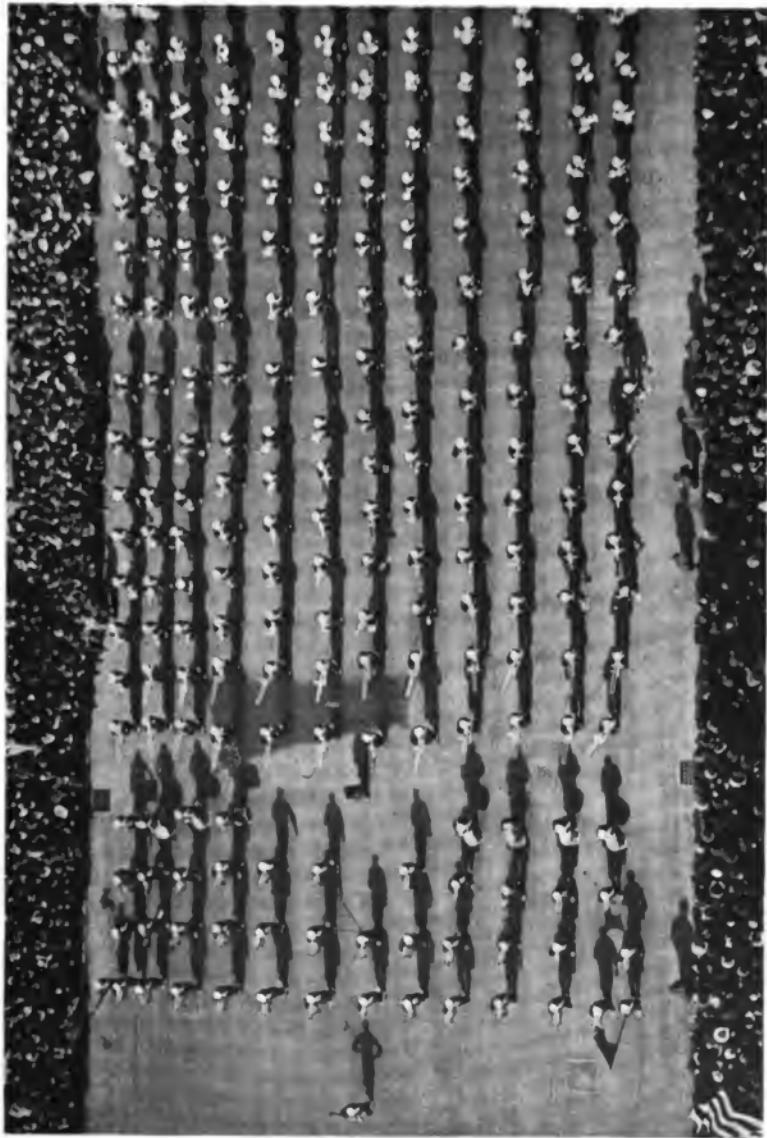




Copyright by Underwood & Underwood, N. Y.

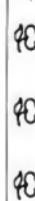
THE GREAT RED CROSS PARADE IN NEW YORK CITY.

On October 4, 1917, New York witnessed a remarkable scene. Fifteen thousand women, all members of the American Red Cross and dressed in the well-known uniform of that organization, marched along Fifth Avenue in military order. The demonstration was in the nature of a farewell tribute to the thousands of brave women who, as trained Red Cross nurses, are going over to the battlefields of Europe to care for the sick and wounded of the American Army. Among the marchers was one entire corps of nurses who had already seen active service, and were about to return to the field. When the country was drawn into the war an appeal went forth to the people of the United States asking for funds to meet the unexpected emergency that confronted the American Red Cross. In less than 30 days \$110,000,000 was raised by private donations—a fact which shows the confidence and trust the American people have in the greatest of all their benevolent organizations. The organization has now reached a membership of over 4,000,000.



SOUZA'S FAMOUS BAND AT
THE HEAD OF THE RED
CROSS PARADE IN NEW
YORK.

The above is a reproduction of a remarkable photograph, taken from a window in one of New York's tall "skyscrapers," of Sousa's Great Lakes Naval Training Band as it headed the Great Red Cross Parade in New York, October 4, 1917. The band is passing along Fifth Avenue, far below the photographer, and the picture shows the nearly perfect alignment of the 250 men composing the band. With the exception of the bands, the Parade was composed entirely of members of the American Red Cross, over 12,000 women in uniform being in line.



GEORGIA TECH PUBLISHED A SPANISH BULLETIN.

The Pan American Union is in receipt of a handsome 32-page bulletin, splendidly illustrated, printed in Spanish and published by the Georgia School of Technology, Atlanta, Ga. The text is the work of Dr. J. B. Crenshaw, professor of modern languages of the institution, and the bulletin is designed for distribution in the several Spanish-speaking Republics of the Americas with the view of acquainting the young men with the details of the excellent courses offered by the school. While Georgia Tech may not be the first to get out such a bulletin, there being two other educational institutions in the country that have published similar pamphlets, the excellent manner in which the text has been prepared and the fine mechanical work of the printer and illustrator, as well as the spirit of enterprise in catering to the wants of the students of Latin America, are to be commended. United States consular officers throughout Central and South America are aiding in the distribution of the pamphlets.

SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED TO OCTOBER 15, 1917.¹

Title.	Date.	Author.
ARGENTINA.		
Notes from northern Argentina.....	July 28	Wilbert L. Bonney, consul, Rosario.
Railroads of northern Argentina.....	Aug. 9	Do.
Foreign trade for first half of 1917.....	Aug. 18	W. Henry Robertson, consul general, Buenos Aires.
Automatic telephone concession, Buenos Aires.....	do.....	Do.
Argentine budget for 1918.....	Sept. 4	Do.
Electrical power stations and substations.....	do.....	Do.
BRAZIL.		
Annual report on commerce and industries.....	July 19	Edward Higgins, consul, Bahia.
Norwegian electric tramway.....	July 20	Alfred L. M. Gottschalk, consul general, Rio de Janeiro.
Brazilian fiber piteira.....	July 25	Do.
Brazilian oil-bearing seeds and nuts.....	July 26	Do.
Production of cement.....	July 27	Do.
Annual report on commerce and industries.....	do.....	A. T. Haebrie, consul, Pernambuco.
Report on sanitary installations.....	July 30	Samuel T. Lee, consul, Rio Grande.
The Companhia Armour do Brazil.....	July 31	Alfred L. M. Gottschalk, consul general, Rio de Janeiro.
Market for straw braid.....	do.....	Edward Higgins, consul, Bahia.
A municipal commission to study the increased cost of living in Rio de Janeiro.	Aug. 2	Alfred L. M. Gottschalk, consul general, Rio de Janeiro.

¹ This does not represent a complete list of the reports made by the consular officers in Latin America but merely those that are supplied to the Pan American Union as likely to be of service to this organization.

Reports received to October 15, 1917—Continued.

Title.	Date.	Author.
BRAZIL—continued.		
"Castanha de Cajú" for export.....	1917. Aug. 2	A. T. Haeberle, consul, Pernambuco.
Automobile imports.....	Aug. 4	Chas. L. Hoover, consul, São Paulo.
The Brazilian Tobacco Corporation.....	do.....	Alfred L. M. Gottschalk, consul general, Rio de Janeiro.
Coconut industry.....	Aug. 5	A. T. Haeberle, consul, Pernambuco.
Cotton industry.....	Aug. 6	Alfred L. M. Gottschalk, consul general, Rio de Janeiro.
Purchase of coal and other combustibles by the Government.....	Aug. 10	Do.
Iron and steel market.....	do.....	Chas. L. Hoover, consul, São Paulo.
Jute weaving.....	Aug. 11	Alfred L. M. Gottschalk, consul general, Rio de Janeiro.
Silk weaving.....	do.....	Do.
The woolen goods industry.....	do.....	Do.
Linen weaving.....	do.....	Do.
Market for straw braid.....	Aug. 11	Do.
Rice growing in São Paulo.....	Aug. 16	Chas. L. Hoover, consul, São Paulo.
Breadstuffs in São Paulo.....	do.....	Do.
New packing house in São Paulo.....	do.....	Do.
Payment of bounties on merchandise exported to foreign countries.....	do.....	Do.
Modern sanitoriums in Brazil.....	Aug. 17	Alfred L. M. Gottschalk, consul general, Rio de Janeiro.
Market in iron and steel products.....	Aug. 25	Do.
State of Rio de Janeiro, finances, agriculture.....	Aug. 28	Do.
New company for exportation of beef.....	Sept. 4	Do.
CHILE.		
Meat freezing works.....	June 23	David J. D. Meyers, consul, Punta Arenas.
Reduction in Punta Arenas cable rates.....	do.....	Do.
Exchange post office at Punta Arenas.....	do.....	Do.
Tannery and shoe factory.....	do.....	Do.
COLOMBIA.		
Market for motion-picture films.....	Aug. 7	Claude E. Guyant, consul, Barranquilla.
Loan for government buildings, Barranquilla.....	Aug. 10	Do.
Market for canoes, row-boats, detachable motors.....	do.....	Do.
"One man" flour mills.....	do.....	Do.
COSTA RICA.		
Fixed export duties.....	Aug. 29	Benjamin F. Chase, consul, San Jose.
Proposed new railway.....	Sept. 6	Do.
DOMINICAN REPUBLIC.		
Declared exports for first half of 1917.....	Aug. 13	Clement S. Edwards, consul, Santo Domingo.
Rubber.....	Aug. 14	Do.
The Island of Haiti-Santo Domingo.....	Aug. 29	Arthur McLean, consul at Puerto Plata.
Reduction in grade on Dominican Central R. R.....	Aug. 30	Do.
Parcel-post shipments to.....	do.....	Do.
Tobacco shipments direct to Spain.....	do.....	Do.
Requirements of foreigners for the practice of medicine, dentistry, and pharmacy.....	Sept. 11	Do.
Opening for water works and electric light plants.....	do.....	Do.
Population of Santiago de los Caballeros.....	Sept. 18	Do.
Weather station at Puerto Plata.....	Sept. 19	Do.
Insurance.....	Sept. 20	Do.
ECUADOR.		
Annual report on commerce and industries.....	Aug. 13	Frederic W. Goding, consul general, Guayaquil.
Improvement in the automobile trade.....	Aug. 16	Do.
Progress on the Sibambe-Cuenca Railway.....	Aug. 27	Do.
New textile factory.....	Aug. 28	Do.

Report received to October 15, 1917—Continued.

Title.	Date.	Author.
GUATEMALA.		
Foodstuffs price regulation.....	1917. Aug. 11	D. E. Connor, vice consul, Guatemala City.
Export duties.....	do.....	Do.
Export tax on bananas.....	Sept. 3	Do.
HONDURAS.		
Hotels in Tegucigalpa.....	Aug. 8	Francis J. Dyer, consul, Tegucigalpa.
The indigo industry.....	Aug. 10	Do.
Coinage.....	Aug. 11	Do.
MEXICO.		
Fire equipment in Merida.....	Aug. 15	O. G. Marsh, consul, Pro- greso.
Market for pumps and windmills.....	Aug. 28	G. C. Woodward, consul, Matamoros.
Banana-flour factory.....	Aug. 29	G. A. Chamberlain, consul general, Mexico City.
Transmitting Municipal Gazettes of Guadalajara.....	Sept. 7	J. R. Silliman, consul, Guad- alajara.
Amendments of the Mexican export tariff.....	Sept. 25	G. A. Chamberlain, consul general, Mexico City.
Market for paints.....	do.....	G. C. Woodward, consul, Matamoros.
Exports from Piedras Negras.....	Sept. 29	William B. Blocker, consul, Piedras Negras.
National City Bank, branch at Tampico.....	Oct. 1	Claude L. Dawson, consul, Tampico.
PANAMA.		
Panama Canal dairy.....	Aug. 14	Julius D. Dreher, consul, Colon.
Market for straw hats.....	Aug. 23	A. G. Snyder, consul general, Panama.
Market for motion-picture films.....	Sept. 1	Do.
Agriculture in the Colon consular district.....	Sept. 4	Julius D. Dreher, consul, Colon.
PERU.		
Project of law for emission of nickel coin, etc.....	Aug. 3	William W. Handley, consul general, Lima.
List of attorneys qualified to register patents and trade-marks in Peru.....	Aug. 21	Do.
URUGUAY.		
Commission to study utilization of locusts.....	Aug. 13	William Dawson, consul, Montevideo.
Freight rates from New York.....	Aug. 21	Do.
VENEZUELA.		
Schedule of crops and other reports.....	July 18	Frank Anderson Henry, con- sul, Puerto Cabello.
Imports of meat and dairy products.....	Aug. 13	Homer Brett, consul, La Guaira.
Notes of progress in Puerto Cabello district.....	Aug. 20	Frank Anderson Henry, con- sul, Puerto Cabello.
Refining of petroleum.....	Sept. 17	Homer Brett, consul, La Guaira.



LATIN AMERICAN FOREIGN TRADE IN 1916--GENERAL SURVEY

THE total foreign trade of the 20 Latin American Republics for the calendar year 1916 exceeded that of any prior year in their history, amounting to \$2,912,974,625. This represents an increase over 1913, the former high-water mark, of over \$38,000,000. It represents an increase over the preceding year 1915 of \$444,579,624.

The total imports of these countries for 1916 was \$1,037,744,317, which is nearly \$300,000,000 under the imports for 1913 and \$227,818,617 over the imports of 1915.

The total exports for 1916 were \$1,875,230,308, which exceeded the exports of 1913 by over \$300,000,000, and the exports of 1915 by \$216,761,007.

The almost complete paralysis of foreign trade, especially on the import side, following the outbreak of the war in 1914, extended into 1915, as reflected in the statistics. This paralysis showed decreased imports as follows: 1913, \$1,321,861,199; 1914 (five months of war), \$907,841,133; 1915, \$809,925,700. The recovery began about July or August of 1915. In 1916 the return to normal was almost complete and the imports for this year, as shown above, were over \$1,037,000,000.

The paralysis in the export trade was not so marked. In 1913 the exports were \$1,552,750,952; in 1914, \$1,275,312,612; and in 1915 they reached a maximum greater than ever before of \$1,658,469,301. This high mark, as shown above, was exceeded in 1916 by nearly \$217,000,000.

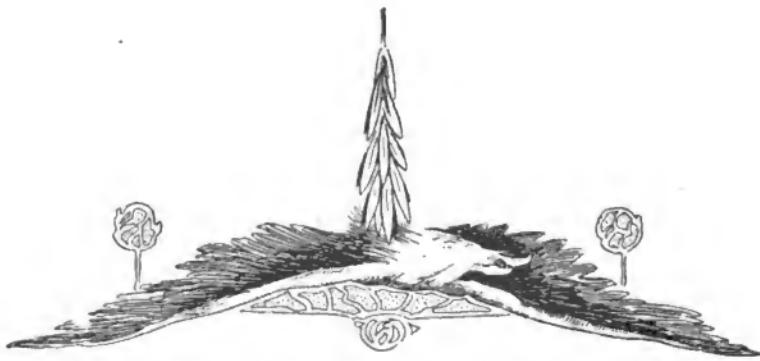
Prior to the war the chief contenders for Latin American trade were Great Britain, Germany, France, and the United States. On the import side, for a number of years prior to 1913, Great Britain led, followed by the United States, Germany, and France, in this order. In 1913, for the first time, the United States went to the head, followed by Great Britain and France. The figures for this year were: Total Latin American imports from the United States, \$330,915,267; from Great Britain, \$322,757,555; from Germany, \$218,827,871; from France, \$109,954,670.

Following the outbreak of the war, exports to South America naturally fell off, owing to the entire collapse of the German carrying trade. In 1914 (five months of war) the imports from Germany had fallen to \$132,707,139, and in 1915 to less than \$15,000,000. In 1916, imports from Germany had practically disappeared. Meanwhile, the margin of the United States over British trade in Latin American imports had increased. In 1914, it was: United States, \$253,643,183; Great Britain, \$217,189,333. In 1915, United States, \$342,022,785; Great Britain, \$166,814,790. In 1916, United States, \$530,973,823; Great Britain, \$190,091,027.

The imports from France during these years were: 1914, \$60,-344,865; 1915, \$39,098,012; 1916, \$47,177,401.

Spain has taken the place of Germany, and the imports from Spain in 1916 amounted to \$40,543,720.

On the export side the United States has been predominant in the Latin American trade since a number of years prior to the war. In 1913 the exports to the United States were nearly \$478,000,000, as to nearly \$330,000,000 to Great Britain. In 1914 the exports to the United States increased by a little over \$10,000,000, and to Great Britain decreased by over \$45,000,000. In 1915 the figures (in round numbers) were: To the United States, \$672,000,000; to Great Britain, \$369,000,000. In 1916 the exports from Latin American countries to the United States were \$850,606,759; to Great Britain, \$396,655,099; to France, \$156,491,634, and to Spain, \$54,297,834.



Countries.	Imports.				Exports.				Total foreign trade.			
	1915	1916	Increase.	1915	1916	Increase.	1915	1916	Increase.	1915	1916	Increase.
Mexico.....	\$85,000,000	\$80,000,000	-\$5,000,000	\$1,156,000,000	\$1,170,000,000	\$14,000,000	\$14,000,000	\$14,000,000	\$20,000,000	\$20,000,000	\$189,000,000	\$189,000,000
Guatemala.....	5,072,476	6,725,601	1,653,125	11,366,585	10,618,175	-548,412	1,048,118	17,343,774	704,713	16,689,061	17,428,470	2,842,332
El Salvador.....	4,022,107	5,821,619	1,801,452	10,363,871	11,004,751	1,040,880	14,386,168	9,016,157	140,200,000	1,183,843	1,183,843	0
Honduras.....	5,674,000	5,700,000	3,142,137	1,450,000	1,456,201	5,284,863	1,357,843	717,4662	10,002,400	2,302,000	2,302,000	0
Nicaragua.....	3,159,220	4,777,597	1,618,377	4,567,201	5,121,172	1,553,612	1,149,300	14,452,445	3,402,081	14,562,445	14,562,445	0
Costa Rica.....	4,478,782	6,731,273	2,252,491	9,971,582	11,121,172	1,149,300	14,452,445	14,562,445	14,562,445	14,562,445	14,562,445	0
Panama.....	9,037,200	9,197,454	160,254	3,422,755	3,536,725	1,083,970	12,450,955	14,704,179	2,242,224	14,704,179	14,704,179	0
Cuba.....	155,448,233	157,277,279	92,830,046	254,201,763	257,350	102,277,387	409,739,966	409,739,966	195,100,633	195,100,633	195,100,633	0
Dominican Republic.....	9,118,514	11,664,430	2,545,916	15,208,661	15,208,661	21,527,873	6,318,812	21,527,873	33,192,303	8,864,728	8,864,728	0
Haiti.....	10,312,100	5,967,237	113,000,000	113,000,000	113,000,000	113,000,000	117,344,763	123,312,000	5,967,237	123,312,000	123,312,000	0
North American Republics.....	285,355,355	389,210,253	113,654,898	481,734,907	600,734,907	127,099,932	767,290,330	1,008,945,160	241,634,830	241,634,830	241,634,830	0
Argentina.....	220,085,951	210,887,042	-19,198,909	541,332,224	527,045,463	-214,486,701	701,618,175	717,932,545	223,685,670	717,932,545	717,932,545	0
Bolivia.....	8,804,084	12,128,304	3,320,223	37,132,037	39,579,072	2,447,035	45,306,118	51,707,376	59,819,780	59,819,780	59,819,780	0
Brazil.....	146,082,483	185,968,099	49,915,616	257,176,851	267,081,015	9,904,164	463,326,334	463,326,334	90,220,424	90,220,424	90,220,424	0
Chile.....	35,922,218	81,220,102	25,267,884	119,329,892	187,438,432	67,928,540	175,432,110	175,432,110	90,220,424	90,220,424	90,220,424	0
Colombia.....	17,840,350	12,000,000	9,159,650	31,579,131	40,000,000	8,120,869	49,419,481	16,076,000	17,580,519	17,580,519	17,580,519	0
Ecuador.....	8,408,143	9,320,173	922,030	12,805,069	17,530,691	4,474,622	21,363,212	26,899,864	5,506,632	5,506,632	5,506,632	0
Paraguay.....	2,333,171	4,358,684	2,224,973	8,624,260	8,624,260	2,433,868	10,937,980	12,740,055	1,790,075	12,740,055	12,740,055	0
Peru.....	15,044,347	42,256,548	27,212,201	68,188,128	80,497,083	11,858,955	83,182,475	122,753,631	39,071,156	122,753,631	122,753,631	0
Uruguay.....	36,375,825	35,155,112	1,223,713	76,222,298	71,074,274	5,148,474	112,661,123	106,229,386	16,371,737	106,229,386	106,229,386	0
Venezuela.....	13,470,236	12,000,000	6,329,764	23,494,427	27,000,000	3,595,575	36,874,663	34,171,000	10,125,337	34,171,000	34,171,000	0
South American Republics.....	524,370,345	638,534,064	114,163,719	1,176,734,326	1,265,495,401	88,761,075	1,701,104,671	1,904,029,165	292,924,704	1,904,029,165	1,904,029,165	0
Total Latin American.....	809,925,700	1,037,744,317	227,819,617	1,658,499,321	1,875,230,308	216,761,007	2,408,365,001	2,912,974,625	444,579,624	2,912,974,625	2,912,974,625	0

¹ Estimate.² Decrease.³ Estimated in Part.

DISTRIBUTION OF TRADE - IMPORTS

MECHANICS IN IMPORTS AND EXPORTS ETC. ETC. ETC.

Latin American trade with Germany having almost entirely ceased during the war, Spain has been substituted for Germany in the table above.

Estimate.

DISTRIBUTION OF TRADE EXPORTS.

LATIN AMERICAN EXPORTS TO LEADING COMMERCIAL COUNTRIES.

Countries.	United Kingdom.				France.				Spain.				United States.			
	1915	1916	1915	1916	1915	1916	1915	1916	1915	1916	1915	1916	1915	1916	1915	1916
Mexico.....	\$156,000,000	2,470,000,000	2,430,000,000	3,832,000,000	2,431,000,000	2,433,500,000	2,431,000,000	2,431,000,000	2,431,000,000	2,431,000,000	2,431,000,000	2,431,000,000	2,431,000,000	2,431,000,000	2,431,000,000	2,431,000,000
Salvador	11,566,585	10,618,173	1,456,507	86,067	67,253	1,098,312	2,779,179	826	33,012	47,568	6,881,411	8,665,573	6,881,411	8,665,573	6,881,411	8,665,573
Honduras	10,363,871	11,601,751	415,747	20,000	20,000	2,000	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500
Nicaragua	3,112,157	3,500,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
Costa Rica	4,567,261	5,284,893	638,500	31,935	600,000	600,000	925,744	925,744	935,217	935,217	2,137	3,675,910	3,675,910	3,675,910	3,675,910	3,675,910
Panama	1,161,172	4,382,233	3,608,408	667,973	935,418	935,418	472,000	472,000	20,000	20,000	20,000	6,830,977	6,830,977	6,830,977	6,830,977	6,830,977
Cuba.....	3,422,753	3,566,725	47,034	135,687	2,400	5,000	8,804	8,804	3,500	3,500	3,500	3,118,734	3,118,734	3,118,734	3,118,734	3,118,734
Dominican Republic	274,291,763	336,350	33,016	52,776,331	1,135,404	13,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Haiti.....	15,000,061	21,527,875	84,366	105,017	52,776,331	1,135,404	287,799	287,799	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Per cent of exports.....	13,000,000	213,000,000	2,800,000	51,1,300,000	2,5,000,000	2,5,000,000	2,4,500,000	2,4,500,000	2,4,000,000	2,4,000,000	2,4,000,000	2,4,000,000	2,4,000,000	2,4,000,000	2,4,000,000	2,4,000,000
North American Republics.....	481,731,975	600,731,967	70,317,863	90,116,788	12,997,135	25,128,832	9,625,145	9,625,145	32,038,505	32,038,505	32,038,505	338,962,324	338,962,324	338,962,324	338,962,324	338,962,324
Argentina	100,400	10,100	14,391	14,78	2,69	4,12	1,190	1,190	5,25	5,25	5,25	60,33	60,33	60,33	60,33	60,33
Bolivia	541,532,224	527,015,674	169,022,860	154,367,642	31,141,206	62,705,106	6,927,394	8,366,767	87,147,548	87,147,548	87,147,548	110,063,640	110,063,640	110,063,640	110,063,640	110,063,640
Brazil	37,132,037	39,579,072	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Chile	257,176,831	267,081,017	31,120,251	24,289,313	43,147,004	1,322,183	2,197,000	2,197,000	107,235,901	107,235,901	107,235,901	125,305,019	125,305,019	125,305,019	125,305,019	125,305,019
Colombia	119,579,131	187,458,433	40,382,411	31,000,000	3,531,000	4,400,000	1,610,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000
Ecuador	12,805,069	15,030,030	1,5,000	1,5,000	1,5,000	1,5,000	1,5,000	1,5,000	2,171,949	2,171,949	2,171,949	5,678,181	5,678,181	5,678,181	5,678,181	5,678,181
Paraguay	8,621,269	8,190,371	2,664,479	3,530,071	1,171,335	77,624	68,615	126,072	361,420	361,420	361,420	293,926	293,926	293,926	293,926	293,926
Peru	68,638,128	80,497,083	17,000,000	21,000,000	3,988,431	4,790,000	1,539,803	2,1,800,000	31,056,775	31,056,775	31,056,775	31,056,775	31,056,775	31,056,775	31,056,775	31,056,775
Uruguay	76,232,298	71,071,274	13,735,187	13,857,770	18,391,688	12,677,241	2,571,613	3,049,175	10,672,125	10,672,125	10,672,125	10,672,125	10,672,125	10,672,125	10,672,125	10,672,125
Venezuela	21,401,477	27,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	1,079,943	1,079,943	1,079,943	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
South American Republics.....	1,176,731,376	1,265,495,401	298,923,283	306,538,361	95,718,580	131,362,802	16,578,785	22,239,239	337,013,370	337,013,370	337,013,370	436,40,533	436,40,533	436,40,533	436,40,533	436,40,533
Per cent of exports.....	100,000	100,000	25,40	21,22	8,13	10,38	1,41	1,41	1,41	1,41	1,41	1,41	1,41	1,41	1,41	1,41
Total of the 20 Republics.....	1,678,486,301	1,825,230,308	363,280,066	396,635,069	108,711,024	136,491,634	26,201,940	54,297,844	672,005,694	672,005,694	672,005,694	850,000,000	850,000,000	850,000,000	850,000,000	850,000,000
Per cent of exports.....	100,000	100,000	22,26	21,15	6,55	8,34	1,38	2,80	40,52	40,52	40,52	40,52	40,52	40,52	40,52	40,52

1 Latin American trade with Germany having almost entirely ceased during the war; Spain has been substituted for Germany in the table above.

2 Estimate.

3 Estimated in part.

ARGENTINE REPUBLIC

The Bureau of Statistics of the Argentine Government has compiled figures showing that the FOREIGN TRADE of the Argentine Republic during the first half of 1917 amounted to 462,067,821 Argentine gold pesos (gold peso = \$0.97), of which 156,795,808 gold pesos represents imports, and 305,272,013 exports. These statistics, compared with those for the same period of 1916, show a decrease of 19,967,695 pesos, Argentine gold, in the imports, and an increase of 45,681,491 pesos, Argentine gold, in the exports. The imports of coin during the six months referred to amounted to 26,321,738 gold pesos, or 13,136,983 gold pesos more than the coin imports during the same period of 1916. The excess of exports over imports during the six months referred to was 148,476,205 gold pesos.—The Argentine Rural Society has presented the Corrientes Stock-growers' Association with four silver medals to award to stockmen raising the best cattle, sheep, hogs, and asses exhibited at the STOCK FAIR held in Corrientes from October 28 to 31, 1917. A silver medal was also given to the Rural Society of Cordoba to be awarded at their 23d annual stock fair, which opened in Villa Maria on October 7, 1917, for the best bull exhibited, and four other medals for prize exhibits of other stock. The Rural Argentine Society has also provided silver medals for adjudication at the Laboulaye Rural Fair for the best cattle, sheep, horse and hog exhibits.—A report of the NATIONAL UNIVERSITY of Buenos Aires for 1916 gives the registration of students as 9,215, as compared with 8,460 in 1915, and 7,547 in 1914. The departments having the greatest number of pupils are those of law and medicine.—A shipment of 200 kilos of CARAGUATÁ FIBER (*Bromelia fulgurens*), which is found in abundance in the Territory of Missiones, was recently made to the national capital. This fiber is suitable for the manufacture of bagging and sacks, and efforts are being made to utilize it on a large scale for that purpose in order to supply the threatened shortage of imported jute sacks.—The Mutual Federation of Students of Buenos Aires held on September 21 last in the National Capital a CONGRESS OF STUDENTS of the Federal District.—The PROTECTIVE ASSOCIATION of young Argentine women, founded in Buenos Aires about 15 years ago, encourages the moral and intellectual development of working women and girls. The association gives free instruction in a number of branches of women's work, such, for instance, as cutting and fitting, embroidery, etc. A free school of arts and crafts for women is maintained in connection with the association.—The registered SALES OF REAL PROPERTY in the national capital from January to June, inclusive, 1917, amounted

to 64,590,372 pesos, currency, as compared with 58,625,577 pesos during the same period of 1916. The sales of real property in the national Territories during the first half of 1917 aggregated 10,721,609 pesos, currency, as compared with 10,003,224 pesos, currency, during the first half of 1916.—The Province of Santiago del Estero produces annually 7,000,000 tons of wood; 20,000 men are employed in the preparation of same.—In July last the steamer "Reina de Italia" sailed from Genoa with the remains of the lamented Dr. Epifanio Portela, ex-Minister of the Argentine Government in Italy and for a number of years Minister of Argentina near the Government of the United States.—The FIRST NATIONAL BANK OF BOSTON opened its branch office in Buenos Aires on July 16 last.—The board of trade of Rosario and a delegation of merchants of Victoria have planned to dredge the PIAGGIO CANAL so as to permit easy fluvial communication between the two cities, situated almost opposite to each other in the Parana River Valley.—The bureau for the encouragement of the development of agriculture in the Argentine Republic recently expended 2,880 pesos, currency, for POTATOES for seed distribution to farmers.—According to an official report the seven agricultural schools of the Argentine Republic had in 1916 an attendance of 277 pupils, most of whom were at the Belle Ville, Posadas, and San Juan agricultural stations. Of this number 54 graduated after having completed a three years' course. The agricultural schools referred to sold products in 1916 valued at 20,525 pesos, currency, and, in addition had for their own consumption a large quantity of foodstuffs, such as milk, cheese, eggs, fowls, vegetables, honey, hog products, etc.—A recent executive decree provides that BUTTER FOR EXPORT shall contain a minimum of 82 per cent of fat, a maximum of 16 per cent of water, and be free from salt or other preservatives.—A factory for the manufacture of WINE CASKS AND HOGSHEADS out of mountain oak has been established in Rio Negro.—The consul general of the Argentine Government at Helsingfors, Finland, advises that a company with a capital of 5,000,000 francs has been organized to establish a direct line of steamships between Argentina and Finland.



The AUTOMOBILE SERVICE recently established between Atocha, Bolivia, and the Argentine town of La Quiaca, thereby connecting the railway systems of the two countries, is already proving popular with travelers and also making the transit of international mail considerably quicker than in the past. The motor cars in use

were constructed especially for rough mountain service, are of from 2 to 5 ton capacity, and are operated in each direction twice a week. The distance between the two railways is approximately 125 miles; the fare is 50 bolivianos (1 boliviano equals about 40 cents United States money), and the time about 8 hours. Considerable freight is also being offered to the company operating the line, the manager of which is Señor Rafael Bertini.—A number of young Bolivians who are studying the art of AVIATION in Argentina and elsewhere have made considerable progress and no doubt will ere long be numbered among the great aviators of the world, especially for extreme altitudes. Many aviators experience the ill effects of flight when in altitudes of 10,000 feet or more, but the native of western Bolivia, having been accustomed to living normally in altitudes of from 10,000 to 15,000 feet, can go very much higher in the skies and feel no illness, his heart and lungs being especially strong. Señor Rene Pareja is one of the Bolivians who has been very successful in his preliminary flights and studies.—Dr. Isaiah Bowman, of New York, has presented to the National School of Mines at Oruro a complete set of his works, including a number of books dealing with ANDEAN GEOLOGY and other scientific matters which came under the investigations of this distinguished scientist. Possibly some of the books will be translated into Spanish for the more general use of students of the institution.—*El Tiempo*, one of the leading newspapers of La Paz, carries the announcement that a large collection of RARE ZOOLOGICAL SPECIMENS, curios of ancient peoples, articles of prehistoric ages, and other antiquities are offered for sale. This extensive collection is owned privately by Señor Don Fortunato Diaz de Oropeza and has long been known as “*El Museo de Potosí*,” in the city of Potosí.—In reviewing the PROGRESS OF BOLIVIA during his second administration President Montes in August last on the occasion of the inauguration of President Guerra, stated that during the year 1916 the country had surpassed all former records in exportations, the total value being more than 100,000,000 bolivianos (boliviano equals about 40 United States cents), while the importations had been the smallest in 12 years. The exportations of rubber alone increased in value more than 2,500,000 bolivianos over the previous year.—A number of young BOLIVIANS HAVE REACHED FRANCE and offered their services to the allied nations in the great war. Among the volunteers is Alfredo Santalla, who has been fighting in the foreign legion for some months and who was recently named a sublieutenant in that branch of the French army. Young Santalla is a graduate of the military college of Bolivia and served in the army of his native country before embarking for European battlefields, where on the firing line he has won the signal honor of passing through various grades to that of a commissioned officer.—Numerous foreign

papers are favorably commenting on the NOTABLE DISCOURSE pronounced by Dr. Ismael Montes at the inauguration of his successor, President Guerra. It is characterized as one of the greatest of state papers both in subject matter and in oratorical effort.



Dr. Athaud Berthet, director of the Agronomic Institute of Campinas, State of São Paulo, is engaged in an exhaustive study of 80 varieties of Brazilian flour. A number of samples of bread obtained by Dr. Berthet have been submitted to a commission of experts appointed by Dr. Altino Arantes, President of the State, to report on the matter. Dr. Berthet hopes to create, among other types, A STANDARD TYPE OF BRAZILIAN BREAD, composed of an appropriate blending of varieties of native flour, either with one another or with the wheat product. Great importance is attached by him to sorghum seed, the cultivation of which is similar to that of Indian corn, and which, through proper selection and breeding, will yield an excellent flour for this standard bread. Among the types submitted was a cheap but very nutritious one which promises to meet the requirements of rural communities, since the flour from which it is made can be ground in an ordinary gristmill, such as exists on almost any farm.—On July 4 last the following SHIPMENTS were made from São Paulo: To Havre, 48,386 bags of rice, 12,660 boxes of lard, 1,250 bags of beans, and to Liverpool, 4,000 bags of beans. In terms of American money the aggregate value of these shipments amounted to \$760,000.—It is reported from Para that during the period comprehended between July 1, 1916, and June 30, 1917, the RUBBER ARRIVALS from the federal territory amounted to 7,027,752 kilos. During the same period arrivals from Bolivia and Peru amounted to 3,952,362 kilos.—TWO VERY INTERESTING MAPS have been prepared by order of Dr. Amaro Cavalcanti, prefect of the federal district. One of them shows the sections of the district which are under cultivation, the nature of the crops, the yield, and the ways of communication. This map also defines the great area of idle lands lying without the precincts of the city—lands which, if turned into farms, would prove a great benefit to the population of the city as a source of food supply. In a report accompanying this map the following causes are given for the present lack of development in this section: First, the want of means on the part of the owners to effect the necessary improvements on their properties; second, the fact that a large part of the land, embracing an area of one-tenth of the federal district, is overrun by swamps; third, the difficulty and high cost of transportation. The

second map presents a clear view of the present ways of communication, which are visibly inadequate to satisfy the ever-increasing requirements. An important feature of this map is an outline of a vast system of communications, by means of which in a few years easy access will be had to every part of the district. This system embraces the employment of bay and fluvial navigation, the restoration and improvement of old public roads, and the construction of new ones. Dr. Cavalcanti contemplates the preparation of the land, the macadamization of the roads, and the building of bridges and culverts. Two great highways will cut the district from end to end, one of them running from Bemfica to Santa Cruz, and the other from Gavea to Guaratiba. In order to carry out the proposed plan, Dr. Cavalcanti will send a message to the municipal council, requesting the adoption of measures calculated to enable the farmers of the Federal District to supply the Rio market with every class of foodstuff, and he is confident that his plan will receive the full support of President Wenceslao Braz and the National Congress.—On July 10, Dr. Ozorio de Almeida entered upon the discharge of his duties as president-director of the Lloyd Brazileiro, a position to which he had been recently appointed by the President of the Republic. The post is a newly created one, rendered necessary by the increasing activities of that organization. Cpts. Muller dos Reis and Midosi will continue to serve in their capacity of commercial directors.—Dr. Carlos Chagas, director of the Oswaldo Cruz Institute of Rio de Janeiro, and Dr. Vital Brasil have been chosen by the International Health Commission of the Rockefeller Foundation as chairman and secretary, respectively, of the consulting board charged with reporting on the exchange of teachers and passing on the merits of persons in Brazil who may be designated to be pensioned by the commission.—A bill has been submitted in the Chamber of Deputies by Dr. Mauricio de Lacerda enforcing the EIGHT-HOUR WORKING DAY. The proposed law applies to all laborers in Government employ or employed by corporations and individuals, with the exception of men engaged in mining operations, whose working day it limits to six hours. Provisions are made for periods of rest during the day without loss to the wage earner.



CHILE

Steps have been taken by Chilean capitalists, upon the recommendation and in cooperation with the Industrial Board of Chile, to establish a BANK entitled "Banco de la Industria y del Comercio" (Industrial and Commercial Bank), with a capital of 2,000,000 pesos, currency (paper peso = \$0.245), divided into shares of 20 pesos

each.—The Senate of the National Congress has approved a bill granting SUBSIDIES TO THE NATIONAL MERCHANT MARINE. Under this bill ship builders in Chile are to receive for vessels of over 100 tons burden, built in the country for use of the national merchant marine or when sold abroad, the following subsidies in Chilean gold pesos (Chilean gold peso = \$0.365). Vessels of iron and steel hulls, mechanically propelled, 40 pesos per ton; propelled by motive power and sails, 30 pesos per ton, and propelled by sails alone, 30 pesos per ton. Wooden vessels mechanically propelled, or with the aid of sails, 15 pesos per ton, and propelled by sails only, 10 pesos per ton. Chilean factories which construct machines for furnishing motive power to vessels of the merchant marine are to receive, under this bill, 5 pesos Chilean gold per horsepower of said machines. Floating iron or steel docks built in Chile are entitled to a subsidy of 30 pesos, gold, per ton of lifting capacity, and the first two docks, built either at home or abroad under contract with the Chilean Government, of a lifting capacity of 8,000 tons, installed in a port of the Republic after the promulgation of the law comprised in the bill referred to, are entitled to a subsidy of 40 pesos, gold, per ton of lifting capacity.—At the request of the Chilean Government the Society for the Encouragement of Industry appointed a committee to investigate and report upon measures for the development of the industry for the SMELTING OF IRON ORES.—In 1916 the EXPORTS OF COPPER from Chile aggregated 71,430 tons, as compared with 51,400 tons in 1915.—The House of Deputies has unanimously approved a bill authorizing the President of the Republic to buy a site in Valparaiso upon which to erect a building for the COMMERCIAL INSTITUTE of that port.—

Pascual Jara de Andraea, a young Chilean engineer educated in the United States, has invented an APPARATUS FOR OBTAINING AN ELECTRIC CURRENT of varying intensity for different uses and especially for utilization in hydroelectric baths.—The Secretary of Public Instruction of the Government of Chile has recommended that courses of LATIN be established in the lyceums of the Republic.—The President of the Republic has signed laws passed by Congress authorizing the expenditure of 10,000,000 pesos, currency, within the next five years in the construction of SCHOOL BUILDINGS, 1,200,000 pesos, gold, for construction material for the Arica to La Paz Railway, and 20,000,000 pesos, gold, for RAILWAY CONSTRUCTION in accordance with the provisions of the budget now in force.—The new RAILWAY PASSENGER STATION in Santiago, together with park improvements, is estimated to cost a little less than 1,000,000 pesos, currency, and is expected to be completed during the latter part of the present year. The passenger traffic of the National Capital during the first half of 1917 consisted of more than one million and a half incoming and outgoing passen-

zero, and the daily sale of tickets amounted to about 40,000 pesos.
 currency.—The Chile ENAMEL Co., with a capital of \$100,000 pesos currency, has established a new industry in Santiago. Another new enterprise—namely, the manufacture of MUSIC ROLLS for pianos—has just been organized in Valparaiso.—The AVICULTURAL FAIR, which met from September 16 to 18, inclusive, 1917, was one of the most successful exhibitions of fowls, both native and imported, ever held in the country. The net proceeds of the fair were paid into the treasury of the Chilean Avicultural Association.—The annual PRODUCTION OF WINE in Chile, according to figures published by Las Ultimas Noticias (The Latest News), a daily newspaper of Santiago, is, in round numbers, 1,600,000 hectoliters (hectoliter = 26.42 gallons).—The INTERNATIONAL CONGRESS OF WORKMEN opened its sessions in Santiago on October 12 last.—The Government of Chile has appointed Justiniano Sotomayor, at present director of the School of Arts and Crafts of Santiago, chairman of a COMMISSION TO STUDY RAILWAY TRANSPORTATION in the United States.



The Senate has approved and sent to the House of Delegates a bill prepared by the Department of Public Works providing for the extension and connection of RAILWAYS, the appointment of a technical commission to submit plans and estimates for the prolongation of the Girardot Railway to the city of Bogota, the construction of a bridge over the Magdalena River to connect with the Tolima Railway, and the building of a railway from some point on the line of the Girardot Railroad to connect with the Dorada railway at some desirable point.—In accordance with an ordinance approved by the Cundinamarca legislature on August 7 last, the anniversary of the battle of Boyaca, a PEDAGOGIC ACADEMY was formed at Bogota. Dr. Joaquin Casas and Dr. Simon Araujo were elected, respectively, President and Vice President of the same. The academy has 30 pupils and uses the most approved methods which obtain in the Republic.—At the beginning of August last a TELEPHONE SERVICE was established between the towns of Socorro, San Gil, Barichara, Cabrera, Galan, and Zapatoa, Department of Santander.—The amount of the NATIONAL REVENUES collected from March, 1917, to July of the same year inclusive, was \$5,708,369.—The press of Colombia states that the Departments of Agriculture and Commerce have submitted to the consideration of the National Congress a bill very advantageous to PACKING-HOUSE interests which may be established in the country with a capital of not less than \$50,000.

gold.—The Municipal Council of Bogota has authorized the organization of a PIGEON TARGET CLUB in the National Capital.—An AUTOMOBILE FREIGHT SERVICE has been put in operation between the city of Cali and the town of Murillo, Department of Valle.—On September 8 last the SOCIAL BANK OF TOLIMA was organized, its by-laws approved and a board of directors and a manager elected. Among the shareholders of the new bank are the principal merchants, stockmen, and plantation owners of the Department of Tolima.—Press reports state that the vessel "Colombia," belonging to the Colombian Crude Product Co., New York, and intended for use in the navigation of the ATRATO RIVER, recently docked at Cartagena. The boat is of 145 tons burden, has a motor of 150 horsepower, and a speed of 10 miles an hour. The freight deck of the vessel will accommodate 40 head of cattle.—The CONVERSION FUND, which on January 1, 1916, amounted to \$2,112,737, gold, has been decreased by expenditures prescribed by law to \$1,760,-469.—A recent decree of the Minister of War establishes a MILITARY TERRITORIAL DIVISION of the country, and divides the Republic into three military zones, six brigade sections, and 32 military districts.—A bill has been introduced into Congress modifying the national constitution concerning the RIGHTS OF FOREIGNERS.—The FIRST CONGRESS OF BOARDS OF TRADE of Colombia met in Bogota from August 20 to 31, 1917.—According to newspaper reports the National Government is negotiating for the installation of a CABLE between the Atlantic Coast of the Republic and the West Indies in order to facilitate cable communication abroad and avoid the delay in sending and receiving cables via Buenaventura.—Under a decree of the Treasury Department the FINANCIAL BUSINESS of the Government is to be handled in three sections, namely, general business, cashier's office, and auditing department.



COSTA RICA

A law has been promulgated authorizing the payment to farmers of a bounty of 40 colones (Colon=\$0.4653) per hectare of land sown to WHEAT the first year, and 20 colones per hectare the second year, the bounty ceasing with that year. The Government proposes to import seed wheat adapted to the different climates of the country and to furnish the same to farmers at cost. Imports of wheat pay a duty of 4½ centimes per kilo.—The Island of Cano, near the coast of Nicoya, has been selected by the Costa Rican Congress for the establishment of a PENITENTIARY. The prisoners in the old penitentiary at San Lucas, which is to be discontinued, will be removed to Cano as soon as proper accommodations are provided.—

An order has been issued requiring FOREIGNERS, who have been convicted by Costa Rican or foreign courts of crimes, misdemeanors, and certain other offenses, such as repeated drunkenness and gambling, to leave the country.—Congress has enacted a law imposing an additional tax of 5 centimes of a colon (Colon=100 centimes or \$0.4653) on the value of each liter of liquor issued by the National Distillery, the proceeds to form a fund to be used for the establishment and maintenance of a NATIONAL ASYLUM for the correction of minors.—A bill has been introduced into the National Congress asking for an exclusive concession for a term of twenty-five years to MANUFACTURE PAPER out of raw material obtained in the country.—Steps have been taken by Spanish capitalists toward the establishment of a factory for the manufacture of JUTE SACKS out of native fibers. The parties in interest propose to supply the home demand and export the surplus to near-by countries.—The Department of Fomento of the Government of Costa Rica has contracted with Minor C. Keith to engage in the raising of CATTLE on a large scale in the Republic. The contract is subject to the approval of the National Congress. Mr. Keith not only proposes to raise blooded stock, but contemplates establishing slaughterhouses and refrigerating plants.—A Company represented by P. W. Chamberlain, capitalized at 500,000 colones (Colon = \$0.4653), recently submitted to the Department of Fomento a plan for the construction and operation of a narrow-gauge STEAM RAILWAY between the cities of Creel and Alajuela or a point near Turrúcares on the Pacific Railway. The Company proposes, if the plan is accepted by the Government and Congress of Costa Rica, to secure funds by the issuance of bonds payable in American gold and guaranteed by the railway and its revenues. Work is to be begun in January, 1918, and it is thought that the line will be ready for traffic on June 30, 1920. The company also contemplates the operation of telephone and telegraph lines in connection with the railway. The railway and all its property, if the project is accepted as presented, will be exempt from national and local taxes for 25 years. At the end of 20 years the line is to be converted into a standard-gauge railway, and on the expiration of 99 years from the opening of traffic, the railway and all its belongings are to become the property of the State.—The NATIONAL MUSEUM in San Jose, which was organized in accordance with a decree of January 28, 1888, for the purpose of collecting and exhibiting objects relating to the natural resources of the country, history, art, and science, is to have its scope enlarged so as to include the following sections: Anthropology and history, natural history, arts and industries.—The Minister of Fomento has contracted with a Costa Rican firm to engage in the industry of raising CASTOR BEANS for the manufacture of oil, the needs of the Government for same to be supplied at cost plus 10 per cent. The contract requires the approval of Congress.



CUBA

The decree signed by President Menocal authorizing the issuance of \$30,000,000 6 per cent interest bearing bonds, provides for the payment of interest semiannually on December 30 and June 30 of each year, amortization to be completed in 12 years, that is to say, December 30, 1929. The denominations of these Treasury BONDS, issue of 1917, are as follows: \$10,000,000 in bonds of \$1,000 each; \$10,000,000 in bonds of \$500 each; \$10,000,000 in bonds of \$100 each.— During the fiscal year 1916-17 the United States imported from Cuba 4,669,097,398 pounds of SUGAR. It is estimated that 8,000,000 sacks will be needed to hold the output of sugar in Cuba in 1917. Arrangements have been made to import 5,000,000 of these from Japan, and negotiations are under way to secure the remainder from New York. A commission representing 70 of the sugar centrals of Cuba recently petitioned the President of the Republic to take steps looking to the bringing of immigrants and their families from Spain and the Canary Islands to work on the sugar plantations. A representative of the Japanese Government has suggested that, on account of the scarcity of labor in Cuba, Japanese laborers be imported to assist in harvesting the crop. It is also claimed that thousands of laborers can be secured from Porto Rico if the Cuban Government will provide transportation.—The CUSTOMS RECEIPTS of the Government of Cuba for the calendar year 1916 were \$27,750,221, or \$8,896,362 more than in 1915. Customhouse administration and other expenses connected therewith in 1916 were \$1,422,834. These revenues came principally from the customhouses at Habana, Santiago, Cienfuegos, and Matanzas.—A new BUILDING ORDINANCE has been submitted to the Council of the City of Habana providing for strict inspection by architects, selected by competitive examination, of buildings under construction, and requiring plans of buildings to be approved by municipal architects or engineers.— The Habana press is authority for the statement that the CUBAN ARMY is made up of more than 12,000 highly trained officers and men, and has a navy as efficient as that of any country of its size in the world. The navy is soon to be increased by 17 torpedo-boat destroyers, coast-guard vessels, and patrols.—Six thousand ORNAMENTAL TREES, furnished by the Department of Agriculture, of Cuba, are soon to be set out in various parts of the city of Habana and suburbs.—An ASYLUM for beggars, the capacity of which is 500, is soon to be established in Habana, and a modern hospital, costing about \$70,000, is to be erected in the near future in Santiago de Cuba.—A plan has been submitted to the Government for the erection of a JAIL in Marianao, a suburb of the city of Habana.

The institution is to be thoroughly equipped and will have a capacity for accommodating 1,187 persons.—The Government is planning to enlarge its WIRELESS telegraph station on the Isle of Pines, and will make the mast 251 feet high instead of 138, as at present.—The BAT GUANO caves in the Gerona mountain, Isle of Pines, are being exploited, and the fertilizer obtained therefrom is now on sale in Cuba.—Modern machinery for the installation of a fruit PACKING PLANT in North Santa Barbara, Isle of Pines, has been received and is soon to be installed.—According to newspaper reports the President of the Republic is considering a plan for the establishment of a SPECIAL DISTRICT to include Habana and the outlying sections of Regla, Guanabacoa, and Marianao.—The Department of Sanitation has resolved to require bakers to use MACHINERY IN THE MAKING OF BREAD, giving them such time as may be necessary to order, receive, and install the same.—The work of constructing two new PIERS in the harbor of Habana, located where the piers of the wharves of San Jose formerly stood, will soon be commenced.—The Cuban consul at Marseille reports that the MARSHMALLOW PLANT, which grows so abundantly in Cuba, produces a fiber stronger than that of jute, of a finer texture, has more the appearance of wool than of jute fiber, and is especially adapted for use in the making of soles for canvas shoes.

DOMINICAN REPUBLIC

The law promulgated July 15, 1915, authorizing the expenditure of \$139,994 for the deviation of the San Marcos River at Puerto Plata has been repealed, and the amount referred to or so much thereof as may be necessary, is appropriated for the completion of the HARBOR IMPROVEMENTS of Puerto Plata.—ALL SALARIED CONSULAR OFFICERS of the Government of the Dominican Republic are required to remit monthly, through the Department of Foreign Relations, to the auditing department of the treasury, the amounts collected by them during the preceding month for consular fees and fines, less 5 per cent assigned to the relief funds.—The Porvenir Sugar Co., a corporation organized under the laws of the State of New Jersey, and engaged in the growing of sugar cane, the manufacture of sugar and the operation of a railway in the commune of San Pedro de Macoris, province of the same name, has been authorized by the Dominican Government to bring into the country, through the port of San Pedro de Macoris, 800 LABORERS from the islands of San Martin, Martinique, St. Kitts, and Antigua to work during the sugar season of 1917-18.—A decree has been issued exempting all NOTARIAL DOCUMENTS relating to claims to be presented before the Dominican Claims Commission of 1917 from the use of stamped paper and the payment of registration fees.—The provision of Article I of the law promulgated by the President of the Republic on July 25, 1913, prohibiting the construction of public works by the administration when the cost exceeds \$300, has been suspended for such projects as the Government may assign to the department of public works to be executed for experimental, cost-finding, or other purposes.—The General Industrial Co. of Santo

Domingo, a New Jersey corporation, has been authorized to import, through San Pedro de Macoris, 1,000 LABORERS from the islands of St. Kitts and Antigua, to work in the sugar-cane fields and refineries of said company during the season of 1917-18.—According to the Listin Diario, a daily newspaper of the national capital, merchants, business men, and the public in general are entertaining great hopes of the advantages that will be derived from the opening of the WAGON ROAD now under construction from the city of Santo Domingo to San Pedro de Macoris. What would be of greater advantage, according to the same authority, is the building of a railway between the City of Santo Domingo and San Pedro de Macoris, since neither the automobile, the wagon, nor the pack train, or all combined, can successfully compete with a well constructed and operated railway. The paper referred to therefore advocates the building of such a road by Dominican or foreign capitalists.—In compliance with a request from the department of treasury and finance of the Dominican Government, the Board of Commerce, Industry, and Agriculture of the City of Santo Domingo has appointed a committee to examine the CUSTOM AND PORT LAWS of the Republic, indicating such changes in same as they may deem desirable for the best interests of the country.—The department of public works has called for bids for the construction of a CONCRETE BRIDGE over the Nigua River. The length of the structure is to be 375 feet, plus 530 feet of filling for the approaches.



ECUADOR

The Congress of Ecuador met in regular session in Quito on August 10 last. Dr. Miguel E. Seminario was elected president of the Senate, and Señor Don Miguel A. Albornoz, speaker of the House of Deputies. Dr. Baquerizo Moreno read an interesting MESSAGE in which he stated that the boundary treaty with Colombia having been approved, the respective commissions had been appointed and began their work in July last. On August 2, 1917, Anibal Veloso Rebello, and Alfredo Ascarrunz, ministers, respectively, of Brazil and Bolivia near the Government of Ecuador, were received by the President. From the 10th to 25th of July last the Chief Executive, accompanied by the ministers of Chile and Colombia, the consuls general of Argentina and Peru, scientists, newspaper men and a number of persons in the employ of the Government made an official visit to the Galapagos Islands, the principal industry of which at the present time is the cultivation of sugar cane on the plantation of Manuel J. Cobos. The President states, referring to the question of the sale of these islands, that he is decidedly opposed to the same, and firmly believes in maintaining the sovereignty of Ecuador therein and in colonizing the group with citizens of the Republic. The President proposes to arrange a regular sailing vessel service to the islands, utilizing the vessels for the training of sailors. The Executive states that the island of Santa Cruz, formerly called "Infatigable," is the most fertile of the archipelago. At San Cristobal the only industries at present carried on are the hunting of cattle for their hides, a little fishing and an almost negligible attempt at agriculture. A military

topographic commission, one officer and twenty-five soldiers were left by the President at Isabel, Albermarle Island.—Press reports state that a commission of engineers, representing a Chilean syndicate, is to build a RAILWAY from Port Bolivar to Cuenca. Among the most important railway projects now under consideration in the Republic, in addition to the railway just mentioned, and the ones most urgently needed in the development of the country are the proposed railways from Ambato to Curaray, from Quito to Esmeraldas, and from Sibambe to Cuenca. Construction work in the Province of Imbabura, on the Quito to Esmeraldas Railway, was commenced on August 10 last.—The new BANKING LAW of the Republic of Ecuador requires banks of issue to have a subscribed capital of not less than 400,000 sures (sucro=\$0.4867). Before commencing operations at least 50 per cent of the capital in national gold and 10 per cent in national silver must be paid up. The issue of bank bills shall not be more than twice the amount of the subscribed capital, and the circulation of same shall not exceed the gold reserve on hand. Bank bills of less than one sucre shall not be placed in circulation.—The receipts of CACAO at Guayaquil in July, 1917, aggregated 78,006 quintals, as compared with 70,109 quintals in July, 1916. The exports of cacao from Guayaquil in July of the present year amounted to 40,461 sacks, weighing 3,255,349 kilos, most of which was consigned to France and the United States.

GUATEMALA

A NATIONAL EXPOSITION was held in the hippodrome in the city of Guatemala from October 28 to 31, inclusive, 1917, as a part of the celebration of the annual Feasts of Minerva. Exhibits were made as follows: (a) Oleaginous plants and their products; (b) fibrous plants, their products and domestic manufactures thereof; (c) plants producing tannin, their products and application; (d) dye plants, their products and manufactures, and (e) a library section containing books which treat of the foregoing subjects.—The San Carlos Co. of ceramic products and allied industries propose to establish on a large scale in Guatemala FACTORIES FOR THE MANUFACTURE OF ORDINARY CHINaware, filters, tiles for flooring and roofing, clay piping, etc. The manager of the company has for a number of years been engaged in Guatemala in the manufacture of fire brick and is well informed concerning the location, extent, and value of the different grades of clay deposits required in the manufacture of the articles in question.—Steps have been taken by the Government of Guatemala looking to the importation of a considerable quantity of MAIZE for sale in the national capital at cost, thereby alleviating until the harvesting of the next crops the condition caused by the shortage in the supply of this cereal.—The extensive SALT MINE belonging to the municipality of Coban, department of Alta Verapaz, is not operated at present, largely due to lack of roads and adequate transportation facilities. The mine, which is said to contain an abundance of salt of good quality, could probably be profitably worked by constructing a good wagon road to the deposits and repairing the highways which lead to the principal

markets in the vicinity. The mine is near a brook of salt water which has its source in one of the neighboring hills, and is supposed to flow, through an underground channel, over a large deposit of rock salt lying a few meters below the surface of the earth. Formerly crude methods were used and the mines were exploited on a small scale by the municipality. It is contended that by using modern machinery and methods and the construction of good roads the mine could be made to pay a handsome profit.—*La República*, a daily newspaper published in the city of Guatemala, calls attention to the advisability of promptly DREDGING THE CHIQUIMULILLA CANAL which places a productive section of the coast region of Santa Rosa in communication with the Southern Railway, thereby enabling large quantities of rice, maize, beans, and salt produced in that part of the country to be transported to the national capital and other important markets and industrial centers of the Republic. The canal is navigable at present, but the bar at the mouth of the river is so shallow that heavily loaded boats pass over it with difficulty or are unable to clear it at all without lightening their cargoes. It is stated, however, that the Government intends to soon commence dredging the canal and will deepen it so as to permit the passage of boats loaded to their full capacity.—The JOAQUINA LYING-IN INSTITUTE in the city of Guatemala has been enlarged by the addition on August 21, 1917, of two new departments, with a capacity of 21 beds each.



The Department of Public Works of the Government of Haiti has requested bids for the repair and reconstruction of the following NATIONAL TELEGRAPH LINES representing a total of 430 kilometers (267 miles): From Aquin to Carrefour Desruisseau, 60 kilometers; from Carrefour Fauché to Jacmel, 48 kilometers; from Jacmel to Saltiou, 50 kilometers; from Saltiou to Anses-à-Pitres, 60 kilometers; from Môle St. Nicolas to Port-de-Paix, 80 kilometers; from Mirebalais to Baradères, 47 kilometers; and from Arcahaie mag. Carries to Gonavaies, 85 kilometers.—A match factory located at Puerto Plata, Dominican Republic, has begun to make large shipments of MATCHES to the Haitian markets to take the place of those imported from Europe before the commencement of the European war. This business has grown to such an extent that now most of the matches used in Cape Haitien and Port au Prince come from the Dominican Republic. The Dominican factory referred to produces at the present time practically all of the matches consumed in that Republic, and is extending its business so as to furnish this article to the neighboring countries, and has been very successful in doing so in Haiti.—A recent executive decree authorizes the formation of a society under the name of AMERICAN CLUB of Port au Prince, with the object of developing and encouraging by all means possible amusements, athletic games, and physical exercise, not only in the capital of the Republic but also in the principal towns of the country. In order to fulfill its purpose it will purchase or lease the necessary grounds and buildings.—A commission of engineers is studying the route of an AUTOMOBILE ROAD which the Govern-

ment proposes to build between Petionville and Furcy.—About the middle of August last the construction of the operating hall of SAN FRANCISCO DE SALES HOSPITAL in Port au Prince was completed. The hall will be opened for use as soon as the equipment for same is received from abroad.—The Government of Haiti has contracted with the electric light and power companies at Port au Prince and Cape Haitien to furnish private houses with ELECTRIC LIGHT at a very low cost for current, lamps, and electric apparatus.—The official edition of the CUSTOMS LAWS containing all recent decrees and resolutions now in force pertaining to this subject was recently published at Port au Prince.—According to data furnished by the consul of Haiti at Havre, the following Haitian products were received at that port in 1916: 125,124 sacks of coffee; 21,309 pounds of hides, dried; 308,192 pounds of honey; 104,582 pounds of cotton; 852,604 pounds of cacao; 11,827,118 pounds of campeche; 11,862 boxes of oranges; 3,953 pounds of old copper; 483,958 pounds of cotton seed; 2,823 pounds of wax; and 2,578 pounds of horns.—On September 1 last a new STREET-CLEANING SERVICE was inaugurated in the national capital.—The construction of a fine building for a PRIMARY SCHOOL for both sexes has just been completed in the town of Croix des Missions.—The AGRICULTURAL COMMISSION sent by the United States to Haiti to study the advantages and opportunities of that country from an agricultural standpoint has arrived at Port au Prince.—Under the name of ANNALES COMMERCIALES (Commercial Annals) a new semiweekly paper is being published in Cape Haitien.—In accordance with a decree of the Department of Justice all MARITIME AND COMMERCIAL MATTERS of Cape Haitien were placed on August 23 last under the jurisdiction of the civil court.—Recent executive decrees prescribe the conditions and requisites which must be complied with in Haiti for admission to the DIPLOMATIC AND CONSULAR SERVICE of the Republic and concerning promotions in that service.



One of the industries of Honduras which has been greatly stimulated by the European war is the production of INDIGO. Formerly this article was one of the most valuable agricultural products of the country, but many years ago it was supplanted by Prussian blue, a chemical dyestuff produced in Germany. The supply of the latter having been cut off by the war, vegetable indigo is again in demand. Itibucá is one of the departments of Honduras which is highly adapted to the growth of the indigo producing plant, and the inhabitants of the municipalities of Camasca, Concepcion, Colomancagua, Santa Lucia, Magdalena, and San Antonio, in that department, who have engaged in the cultivation of the indigo plant on a small scale from time immemorial, have lately been increasing the acreage devoted to its cultivation, so that at the present time the area aggregates 6,238 acres, of which 3,859 represent new cultivations planted during this and the previous year, and 2,379 old plantations. It is estimated that the production of these 6,238

acres will amount this year to more than 100,000 pounds of indigo. There is a brisk demand for the product, and if the supply of Prussian blue remains inadequate or unobtainable for a number of years, the vegetable indigo industry will become increasingly profitable. The Department of Itibuca is one of the most mountainous districts of Honduras, its tablelands and valleys having an elevation of from 4,000 to 5,000 feet, while its mountains rise to a height of 10,000 feet above the sea. The plain of Itibuca, which has an elevation of 5,000 feet above sea level, is noted for its delightful climate. In addition to indigo, wheat, coffee, sugar cane, tobacco, peaches, apples, plums, and berries thrive in this department, and the country is especially adapted to stock raising.—Recent statistics show that the Department of Tegucigalpa has under cultivation 22,788 manzanas (1 manzana = 1.74 acres) of maize, 3,052 manzanas of beans, 1,752 of bananas, 409 of yucca, 4,308 of millet, and 413 manzanas of rice.—The request of J. Rudolfo Molina to establish in Pespire, Department of Choluteca, a FACTORY for the preparation of gaseous water has been approved by the Department of Fomento (Promotion) of the Government of Honduras, and the petition has been referred to the National Congress for final action.—The Government of Honduras has authorized Florián Davadi, a Honduran citizen residing in Tela, to cut CONSTRUCTION TIMBER, consisting of cedar, mahogany, and pine trees, in the national forests of the Department of Colón on lands situated between the Negro, Tinto, Segovia, and Wanks (or Coco) Rivers, as well as those found on lands between the confluence of the Wasprashi with the Patuca River, and from thence to the sea in the region generally known as the Mosquitia, excluding in the territory mentioned lands covered by prior grants to other parties. The concessionaire agrees to pay to the Government \$12, American gold, or its equivalent in silver, for each tree of cedar or mahogany, and \$1, American gold, for each pine tree felled.—Congress has enacted a law providing for the establishment in the national capital of a BOARD OF HEALTH. The law divides the Republic into five sanitary zones, each one of which is to be under the immediate authority of an inspector.—Joaquín Sánchez has been authorized to extract VEGETABLE AND ANIMAL OILS in several of the departments of the Republic, and to introduce and cultivate oil-producing plants.



According to press reports an INDUSTRIAL CONGRESS will meet in the City of Mexico on November 5, 1917.—The SOLE BANK OF ISSUE (Banco Único de Emisión), which is to be established in the City of Mexico on April 1, 1918, will have a capital of 5,000,000 pesos (Mexican peso, silver = about \$0.70).—A permit has been issued by the Department of Industry to Lic. Manuel Mateos Alarcon to work the MAGNESITE DEPOSITS of the island of Cedros, which is situated in the Pacific Ocean in the jurisdiction of the northern district of the Territory of Lower California.—Gen. Manuel Pérez Treviño and Col. Juan C. Zertuche have been authorized by the Department of Fomento (Promotion) to colonize

the island of Guadalupe, and to exploit the natural products of that island as well as of the small islands of Zapatero and Toro in the Pacific Ocean.—The committee of the National Chamber of Commerce of the City of Mexico, which has been considering how to raise money to purchase 1,000,000 bushels of MAIZE in the United States to be sold in Mexico for the benefit of the poor, has decided that the most feasible way to raise the necessary funds is by popular national subscription.—The FIFTH NATIONAL MEDICAL CONGRESS is scheduled to meet in Vera Cruz from the 9th to the 16th of January, 1918. The preliminary work of the congress is in charge of a committee appointed by the Fourth National Medical Congress. The work of the congress will be divided into 12 sections.—A plan is under way to build a THEATER at Villa de Guadalupe, a famous suburb of the City of Mexico.—A WIRELESS telegraph station, the material for the construction of which was ordered from the United States, is being installed at Villa Hermosa, State of Tabasco. Other wireless stations are now under construction at Chihuahua, Guadalajara, Tampico, and the new Port of Lobos. These stations are being installed under the supervision of Mario Mendez, Director General of National Telegraphs, and at the close of September last most of them were almost completed. During May of the present year the wireless telegraph stations of Mexico dispatched 34,105 messages.—The Department of Public Works has decided to begin the DREDGING OF THE HARBOR OF VERA CRUZ at an early date, and also contemplates repairing the breakwater at that port. The harbor has filled up in places and will now be deepened so as to accommodate the largest ocean-going vessels.—A thoroughly up-to-date BATHING RESORT is to be established near the southeast corner of the wharf in the port of Vera Cruz. Suitable buildings are to be erected and modernly equipped. Music, dancing, bowling, and other amusements will be provided for the patrons of the resort.—The Mexican AGRONOMIC SOCIETY has been organized in the National Capital with the object of developing agriculture. The headquarters of the organization are at Avenida 5 de Mayo No. 34, City of Mexico.—Tacubaya, a suburb of the national capital, has inaugurated a POTABLE WATER SERVICE of 3,000 cubic meters of water per day, the supply of which comes from Lake Xochimilco.—The "Compania Perlifera" (Pearl Co.), has been authorized to exploit the PEARL FISHING industry in the bays and inlets of the island of San José, in the waters surrounding that island and the reefs and islets of the vicinity.—The Department of Fomento has authorized Lic. Luis M. Calderon to establish and operate for a period of 10 years three PACKING HOUSES for the conservation of fish in Lower California. The concessionaire agrees to invest \$30,000, Mexican gold, in the enterprise.—The National Government has decided to establish a factory for the manufacture of ELECTROLYTIC COPPER, as well as one for the preparation of a special class of steel, both of which products are to be used for military purposes.—Of the 13,300 kilometers of the national RAILWAYS of Mexico there were 11,803 kilometers in operation on September 2, 1917. The railway cars available for commercial purposes numbered at that time 13,326.—Reports from the State of Colima are to the effect that an extensive OIL ZONE has been discovered in that commonwealth on lands of the Santa Rosalia ranch.

NICARAGUA

On July 31, 1917, the President of the Republic read an important MESSAGE to the National Congress on the occasion of the opening of a special session of that body on the date mentioned relating to measures concerning the financial situation of the country and other urgent business matters.—The SCHOOL OF AGRICULTURE, originally established at Chinandega, is, according to a published interview with Dr. Enrique Navarro, director of the school, to be removed to Leon, where land, buildings, and a thousand dollars for furniture and equipment have been donated to the institution, as well as milch cows and agricultural machinery. The school is reported to be doing excellent work of a practical and theoretical nature. Experiments carried on in the school show that a number of new products can be successfully grown in Nicaragua, the cultivation of which will practically amount to the establishment of new industries. The branch of instruction which treats of the diseases of plants and animals is proving to be highly beneficial to stock growers and agriculturists, since it enables them to prevent or cure many injurious diseases which have hitherto been beyond control in Nicaragua.—According to press reports the proposed contract of Lincoln G. Valentine to investigate the existence of OIL wells in Nicaragua and to develop the petroleum industry there, should oil be found in paying quantities, has been rejected by the Nicaraguan Congress. Other proposals have been received by the Government of Nicaragua for the exploitation of the petroleum industry, among which is that submitted by Waldemar Brautigam, representing a company of North American capitalists.—A number of planters have successfully engaged in the cultivation of COTTON in the Atlantic coast section of the Republic where this plant grows luxuriantly, produces cotton of an excellent fiber, and yields abundantly. Great quantities of rich land are available for the cultivation of this crop, and with adequate transportation facilities the growing of cotton in the district promises most flattering returns.—The Senate has rejected the bill amending the forestal law so as to make the TAX ON THE CUTTING AND EXPORT OF TIMBER effective on September 1, 1917, instead of October 31 of the same year as originally specified. After the latter date, as the law now stands, all timber will be subject to an export tax of \$1 per thousand feet, plus the cutting tax of \$4.—MISS ROSITA ESTRADA, daughter of ex-President Juan J. Estrada, has entered the University of Pennsylvania to continue the study of bacteriology, tropical medicine, and sanitation, under the direction of Prof. Demaso Rivas, an eminent Nicaraguan specialist. Miss Estrada was awarded a scholarship under the Rockefeller Foundation, and if successful with her preliminary studies will probably be given a scholarship in the regular medical course at Johns Hopkins University. She is the first woman to be selected from Central America for the Rockefeller course.—The Minister of Fomento (Promotion) and Public Works of the Government of Nicaragua has issued a circular requesting the governors of the different departments of the Republic to indicate the boundaries of their departments for the purpose of obtaining data for the making of a new and up-to-date MAP of the country.



The Button Manufacturers' Corporation of Newark, N. J., has established in the city of Panama a factory for the MANUFACTURE OF BUTTONS FROM VEGETABLE IVORY. The factory, which is now located in temporary quarters, began operations on August 1 last, and at present has a capacity for working up 100 tons of raw material per month. A special building is to be erected for the use of the factory and the capacity will be increased so as to handle 6,000 tons a year. The location of the factory is within a few days' sail of markets that require \$2,500,000 worth of buttons annually. The vegetable ivory nuts available come from Ecuador and the Republics of Panama and Colombia, the city of Panama being a distributing point. The ivory nuts when received at the Panama factory are green and have to go through a process of drying for two or three weeks before they can be sawed into button slabs. Only native labor is employed. The factory was established in Panama after a thorough investigation by expert button men from the United States who looked carefully into labor conditions in Ecuador, Colombia, and Panama. A ready market for buttons is at hand in the West Indies, Central and South America, which use annually buttons valued at more than \$2,300,000, and buttons are not manufactured in any of those countries out of vegetable ivory. Dr. Eusebio A. Morales, secretary of government and justice and formerly minister of Panama in the United States, was largely instrumental in inducing American capitalists to locate this plant in the national capital.—The Grace Line has arranged to establish a through first-class MONTHLY PASSENGER SERVICE from New York to Valparaiso, via the Panama Canal, the trip to be made in 18 days. The stops include Cristobal, Balboa, Callao, Mollendo, Arica, Iquique, Antofagasta, Coquimbo, and Valparaiso.—A Panama chemist educated in the United States has established a factory for the manufacture of red TABLE WINES from a fruit called "paico," which grows abundantly in the Republic, as well as other wines from a fruit known as "piñuela." The taste of these wines is said to be very similar to grape wines, and produces no damaging effects on the human organism.—The authorities of the Government of Panama have arranged to establish a REFORM SCHOOL for boys near the city of Panama in the building formerly used as an agricultural college.—A shipment of 20 varieties of seeds has been received from the National Government by Governor Ramon Vallarino for free distribution to gardeners and other interested persons.—The Panama press states that the Government has decided to temporarily prohibit the EXPORTATION OF SILVER BULLION and Panama silver coin from the Republic.—The superintendent of the Chiriquí Railroad has recommended the use of CRUDE OIL as a fuel. This railway is to be extended, and a committee has been appointed to make a survey for the extension between Concepcion and Chiriquí Viejo.

PARAGUAY

The National Congress has enacted a law authorizing the Paraguay Packing & Cold Storage Co. to establish a slaughterhouse, equipped in the most up-to-date manner, for the preparation and conservation of beef, mutton, pork, and goat meat, together with their by-products, for food purposes by the use of refrigerating or other modern processes. The company also has permission, with the consent of the President of the Republic, to build wharves and to use same in connection with its business in such places as it may deem desirable. The concessionaires may export the nonalimentary by-products, either in their natural state or after being manufactured into other forms. The company is granted the following franchises: Exemption from import duty on the machinery, fixtures, supplies, spare parts, accessories, and such other articles as may be needed for the installation, operation, and maintenance of the plant; free importation of cattle on the hoof; exemption from fiscal and municipal duties now in force or which may in future be imposed, as well as from all kinds of internal taxes, port, wharf, and navigation dues at present in force or which may hereafter be decreed, provided its own wharves are used and not those of the Government or of private parties. The company is subject to the sanitary laws of the country, as well as to the general laws of Paraguay controlling the operation of industrial enterprises. The concession is for a period of 25 years. The company obligates itself to invest 250,000 pesos gold (gold peso = \$0.9648), and to have installed and in operation in five years a packing house with a capacity for handling 500 animals a day. The legal domicile of the company is Asuncion, and the capital stock is owned by Paraguayans. The concessionaires are prohibited from transferring the concession without the consent of the President of the Republic. The company's plant, which is being constructed at Zeballos-cué, will soon be completed and put in operation. The packing plant of the Central Paraguay Co. at San Antonio, a few kilometers from the national capital, is now being installed. The Riso packing house, or *saladero*, has for a long time exported dried and preserved meats. The new packing houses, however, are modernly equipped and use cold for preserving meats, thereby making possible an immense saving in freight, and they intend to export their products to Europe and North America.—New SUGAR CANE fields have been planted at Urunday, a few miles from the town of Arroyos y Esteros, on tracts of land cleared from virgin forests.—According to the Commercial Review (*Revista de Comercio*) of Asuncion there has been such a demand for coconut oil and sperge in Paraguay during the last few months that the domestic supply has been insufficient to meet the same. To increase the output of vegetable oils in Paraguay an important Buenos Aires firm has recently taken steps looking to the establishment of a FACTORY FOR THE MANUFACTURE OF VEGETABLE OILS in the Republic out of coconuts and peanuts.—Preliminary steps have been taken toward the establishment of a TELEPHONE LINE to connect Asuncion with Villa Hayes, Clorinda, Chaco-í, and Monte Piedad.



PERU

For the purpose of consolidating the national debt the President of the Republic has submitted to the consideration of congress a bill authorizing him to issue at par BONDS OF THE INTERNAL CONSOLIDATED DEBT to the amount of £2,000,000. These bonds are to draw interest at the rate of 7 per cent per annum, interest payable semiannually; are to be redeemed in 31 years, and are nontaxable. Every six months drawings are to be made to determine by lot the bonds which are to be liquidated, and from the net proceeds of the tax on tobacco up to £160,000 annually are to be appropriated for their payment.—The new CABINET of the President of Peru is as follows: Dr. Francisco Tudela, chairman of the cabinet and Minister of Foreign Relations; Dr. German Arenas, Minister of Home Government and Police; Dr. Ricardo L. Florez, Minister of Justice, Worship, Instruction, and Charity; Col. César A. de la Fuente, Minister of War and Marine; Señor Baldomero F. Maldonado, Minister of Finance and Commerce; and Engineer Héctor F. Cardó, Minister of Fomento (Promotion).—The POLICE FORCE of the Republic, according to information contained in the President's message of July 24, 1917, numbers 5,074 men, of which 2,318 belong to the civil guard, 870 to the infantry police, and 1,886 to the mounted police.—The total receipts from POSTS AND TELEGRAPHS in 1916 aggregated £165,320, as compared with £127,210 in 1915. The pieces of mail matter handled in 1916 numbered 1,570,262 more than in the previous year. The total number of telegraph messages forwarded in 1916 was 1,707,043.—New INTERNATIONAL POSTAL ARRANGEMENTS have been completed for the exchange of postal money orders with Argentina and Bolivia, and a parcel-post service established with Colombia and Argentina, parcels going to the latter country via the overland route across Bolivia.—The WIRELESS TELEGRAPH SERVICE in Peru has greatly developed within the last few years. At present stations are maintained at Lima, Callao, Pisco, Chala, Iquitos, Leticia, El Encanto, Puerto Bermudez, Masisea, and Orellana. A station is soon to be erected at Cachendo, Department of Arequipa, and the Government has purchased material, which has arrived at Callao, for the installation of five new stations in the northern coast section of the country, and a large plant will soon be in operation at Maldonado, capital of the Department of Madre de Dios.—In 1916 the number of pupils registered in the primary SCHOOLS numbered 166,002, and in the normal and national colleges 277 and 5,202, respectively. The matriculates of the universities during the year referred to were 1,791. In 1916 there were three normal schools in the Republic, 54 national and private colleges, and 2,296 primary schools, with 3,304 teachers.—At the close of 1916 the NATIONAL LIBRARY had 54,473 volumes, 4,053 of which were added during that year.—The President's message states that there are 689,587 persons inscribed in the MILITARY REGISTER of the Peruvian Government.—The FOREIGN COMMERCE of Peru in 1916,

according to the President's message, amounted to £25,224,213 (£=\$4.8665), of which £16,541,063 represent exports and £8,683,150 imports. The revenues of the Government during the same year aggregated £3,942,384, and the expenditures £3,193,609.



The BUDGET of the Government of Salvador for the fiscal year July 1, 1917, to June 30, 1918, gives the estimated receipts as 14,153,950 pesos (peso silver = \$0.6024) and the estimated expenditures as 14,060,413 pesos, or an excess of income over outlay during the period referred to of 93,537 pesos. The estimated revenues are made up of customs receipts 8,828,250 pesos, and returns from all other sources 5,325,700 pesos. The estimated expenditures in detail, in silver pesos, are as follows: Congress, the Presidency, and Department of Home Government, 3,178,591; Department of Fomento (Promotion), 2,059,588; of Agriculture, 49,040; of Public Instruction, 1,280,927; of Foreign Relations, 272,505; of Justice, 845,584; of Public Charity (Beneficencia), 727,160; of the Treasury, 943,369; of Public Credit, 1,522,887; and Department of War and Marine, 3,180,762.—According to El Diario de San Salvador there are registered in that city 156 AUTOMOBILES, practically all having been imported from the United States.—In a statement of the PUBLIC DEBT of the country, recently published in Diario del Salvador, the total indebtedness on January 1, 1916, amounted to 28,255,041 pesos, silver, which by January 1, 1917, had been reduced to 27,950,383 pesos, of which amount 15,002,635 pesos represented the foreign and 12,947,748 pesos the interior debt.—The IMPORTS through the customhouse of La Libertad during the first half of 1917 amounted to 919,926 pesos, or an increase over the same period of 1916 of 445,747 pesos. The exports through the port referred to from January to June, inclusive, of the present year, amounted to 350,071 pesos, or an increase over the same period of 1916 of 175,071 pesos.—The Department of Public Charity (Beneficencia) of the Government of Salvador estimates the funds available for the ROSALES HOSPITAL in San Salvador, the most important institution of its kind in the Republic, at 251,442 pesos (peso = \$0.6024), and the expenditures, including a debt of 12,967 pesos, at 238,444 pesos, or an excess of receipts over expenditures of 12,998 pesos.—A COLLEGE, under the name of "San Carlos," has recently been founded at Santiago de Maria. The college is well equipped and is under the direction of Francisco R. Osegueda. A night school for adults was also recently established in Quezaltepeque.—The city of Izalco opened an ELECTRIC light and power plant to the use of the public on August 15 last.—The building to be occupied by the SCHOOL FOR THE CORRECTION OF MINORS in the city of San Salvador has been completed and is now in use. The structure is two stories high, has a dormitory for 72 beds, which it is proposed to increase to 100, a dining room, baths, shops, and a garden adjoining which is to be cultivated by the pupils.



URUGUAY

The Department of Foreign Relations of the Government of Uruguay, through its legation in Washington, has furnished the MONTHLY BULLETIN with the following data: The legislators affiliated with the "Colorado" political party have, in accordance with an agreement between the delegates of that party and those of the National Party, nominated as its PRESIDENTIAL CANDIDATE Baltasar Brum, now minister of foreign relations, said candidate having received up to the present time 75 votes, or more than an absolute majority.—The President has sent a message to the general assembly accompanied by a bill which grants customs franchises to Swift & Co., of Montevideo, for the installation of a GLUE FACTORY to be operated in connection with the cold-storage plant of that company in Uruguay.—Due to the increase in the price of kerosene and other illuminants the Economic Administrative Board is considering a plan requiring ELECTRIC INSTALLATIONS in all of the houses in Montevideo. The electric company is to reduce the price for current, install meters, and name a fixed price per lamp.—The Government commission appointed ad honorem to study and devise measures for the development of the TRANSIT COMMERCE of the Republic, will soon have finished its work. The minister of foreign relations, who conceived the plan, proposes to soon call a meeting of the commission, to which members of the national and foreign boards of trade of the Republic, as well as other mercantile interests, will be invited.—The Department of Foreign Relations, in answer to a communication from the legation of Brazil announcing, in the name of the Government of that country, that the law revoking neutrality between the United States of America and Germany had been sanctioned, stated that the Uruguayan Government gladly manifested its sympathies for the ideals of AMERICAN SOLIDARITY, and added: "United as the nations of the New World are by everlasting bonds of democracy, and entertaining the same views of justice and of liberty, the logic of principles and interests, in order to better assure the efficacy of the former and the free development of the latter, necessarily requires to be adopted, in regard to the events which now deeply affect the whole world, a close union of conduct in such a way that every act perpetrated against any of the American countries, in violation of the universally recognized precepts of international law, constitutes an offense to all and justifies common action by all. Uruguay entertains the hope that the American nations will take collective action in that sense, either at a continental congress or in some other way, and trusts that that hope, which has guided its expectant attitude, will soon be converted into a successful reality that will insure to America the efficient use of its moral and material powers and the influence it is entitled to exercise on the destinies of the world."—Concerning the sinking of the sailing vessel "ROSARIO," it was decided, after an explanation of the facts by the Minister of Foreign Relations to the Cabinet and to the Senate, to make no diplomatic claim therefor, inasmuch as the case was similar to that of the steamer "Gorizia," and while

the vessel sailed under the Uruguayan flag it had not been definitely registered, and, furthermore, had been sold to a French firm.—The bill prohibiting the exportation of WHEAT, in order to avoid a shortage of food at home, has been approved.—The work undertaken by the State Insurance Bank looking to an increase in the cultivation of CEREALS has met with the approval of producers and consumers. The Commercial Defense League has collected funds to increase the amount advanced by the bank for this purpose, and it is predicted that the area under cultivation will be greatly increased.—At a cabinet meeting held on June 18 last, President Viera decreed, in accordance with views previously expressed by him on PAN AMERICAN POLITICAL SOLIDARITY, that no American country, which in defense of its rights becomes involved in war with nations of other continents, shall be treated as a belligerent, and that laws contrary thereto shall not be enforced.—The stock of COINED GOLD in the Republic on May 31, 1917, was 42,346,544 pesos (peso = \$1.0342), as compared with 41,817,176 pesos in April last.—According to the Bureau of Agricultural Statistics there are in Uruguay 4,134,498 DOMESTIC FOWLS, as follows: Cocks, 242,718; hens, 2, 385,315; cockerels, 1,172,189; ducks, 208,943; turkeys, 82,689; and geese, 42,644. This is an increase since 1908 of 1,052,209 fowls.—In order to celebrate the recent visit of the NORTH AMERICAN SQUADRON to South American waters, a popular committee was formed of the most representative persons of the country. The reception given the squadron showed in a most expressive manner the prevailing sentiment in Uruguay in favor of Pan American solidarity.—The Department of Public Works has issued a decree concerning the increase in the RAILWAY TARIFFS, and has authorized the Central Uruguayan Railway to apply, until further notice, a special freight tariff on the traffic handled.—Statistics compiled by the Pan American Union show that the FOREIGN TRADE of Uruguay for the first half of 1917 amounted to \$68,591,495 United States gold, made up of imports \$19,317,152, and exports \$49,274,343, or an excess of the latter over the former of \$29,957,191. The exports went principally to the United States, \$16,469,597; United Kingdom, \$9,776,999; France, \$7,728,772; Argentina, \$6,825,685; Italy, \$5,327,142; Spain, \$2,114,885; and Brazil, \$580,832, while the imports came chiefly from the United States, \$5,313,531; Argentina, \$4,274,528; Brazil, \$3,534,733; United Kingdom, \$2,492,009; Spain, \$1,604,740; France, \$714,069; and Italy, \$616,082.

VENEZUELA

The Provisional President of the Republic has issued a decree, under date of September 7, appointing the following CABINET: Señor Ignacio Andrade, Minister of Home Government; Dr. Bernardino Mosquera, Minister of Foreign Relations; Dr. Roman Cardenas, Minister of Finance; Dr. C. Jimenez Rebolledo, Minister of War and Marine; Dr. Gumersindo Torres, Minister of Fomento (Promotion); Dr. Luis Vélez, Minister of Public Works; and Dr. R. Gonzalez

Rincones, Minister of Public Instruction.—The executive power has established the office of TECHNICAL INSPECTOR OF MINES for the western region of the Republic with jurisdiction in the States of Lara, Yaracuy, Falcon, Zulia, Trujillo, Merida, and Tachira, and has appointed Dr. Guillermo Machado Morales inspector.—The President of the Republic has acquired by purchase and added to the AGRICULTURAL AND SILVICULTURAL EXPERIMENT STATIONS the ranches known as "Estancia Cotiza" and "Potrero Pulinare."—The Government of Venezuela has leased to private parties the URAO LAGOON at Lagunillas, capital of the district of Sucre, State of Merida, for a period of 10 years at an annual rental of 4,000 bolivares (bolivar=\$0.193). The lessee agrees to charge not more than 4 bolivares per kilo of trona intended for consumption in the Republic.—Antonio J. Calcaño has contracted with the Venezuelan Government to construct and operate a TELEPHONE LINE connecting the towns of Guasipati, El Callao, Tumeremo, and Cuyuni, and any other place or places in the Roscio district, State of Bolivar, that may be desired. The contractor is authorized to import free of duty the apparatus and materials necessary for the construction and operation of the line.—In honor of Simon Bolivar, the Liberator, the newspapers published in Caracas and Maracay used in their edition of July 24, last anniversary of Bolivar, PAPER manufactured in and out of material produced for the first time in the country. The paper factory at Maracay now makes 47 different weights and sizes of paper, and is equipped with the most modern machinery. The paper manufactured varies in quality from rough wrapping paper to the best grades of book paper and cardboard.—The net earnings of the BANK OF VENEZUELA during the first half of 1917 aggregated 988,142 bolivares (bolivar=\$0.193). The reserve fund of this institution is now 1,651,813 bolivares.—During the period referred to the bank imported gold to the value of \$1,550,000.—El Universal, a daily newspaper of Caracas, recently published a view of a MODERN HERON FARM, belonging to Gen. Juan V. Gomez, located near the city of Maracay. The raising of herons for their plumes has of late years grown to be a very important industry in Venezuela, well suited to the country and quite profitable owing to the growing demand and high prices of the plumes.—The Provisional President of the Republic recently issued decrees providing for the establishment of a COMMERCIAL SCHOOL in the city of Puerto Cabello; a chair of engineering in the School of Physics, Mathematics, and Natural Sciences of Caracas; a Museum of Natural History and Archeology and a Museum of Fine Arts in Caracas; a course of practical agriculture in the normal schools of Caracas, as well as in the women's school of arts and crafts in the National Capital.



THE GOVERNING BOARD OF THE PAN AMERICAN UNION.

Photograph by Harris & Ewing.

The first autumn session, November 7, of the Governing Board of the Pan American Union, composed of the Secretary of State of the United States and the diplomatic representatives of the Latin American countries, on this occasion there were present the representatives of 15 of the 21 countries of the Union. This photograph is especially interesting and notable, because it shows on the left of Secretary Lansing Ambassador Bonilla, of Mexico, who thus gives Mexico representation at the first time after the lapse of two years. He was extended a special welcome by Secretary Lansing, speaking on behalf of the Governing Board. Those around the table are as follows, beginning with Secretary Lansing and proceeding to the right: Ambassador Taft, of Brazil; Ambassador Attunez, of Chile; Minister Calderon, of Bolivia; Minister Monlez, of Ecuador; Minister Zaldivar, of Salvador; Minister Elizalde, of Ecuador; Minister Veyre, of Venezuela; Minister Menos, of Uruguay; and Ambassador Bonilla, of Mexico, standing, left to right, Director General Barrett and Assistant Director Yanez.





VOL. XLV

NOVEMBER, 1917

No. 5

THE CALL FOR FOODS: SOUTH AMERICA'S ANSWER¹

MANY an acre of fruitless land in South America has become productive within the last few years. The effect of war, devastation and hunger in Europe was brought vividly and piteously home to the South Americans at a much earlier date than has been the case in the United States. Why? Because at the outbreak of European hostilities every South American country began to give its young men to the god of battle. England, France, Italy, and the central powers all called their reservists and patriots to the homeland. It was the writer's privilege to see thousands of men reembark from Brazil, Uruguay, and Argentina—lands of their adoption—for European trenches, and six months later to hear in Chile, Peru, and Bolivia the harrowing stories of the loss of sons, brothers, and fathers on the field of battle.

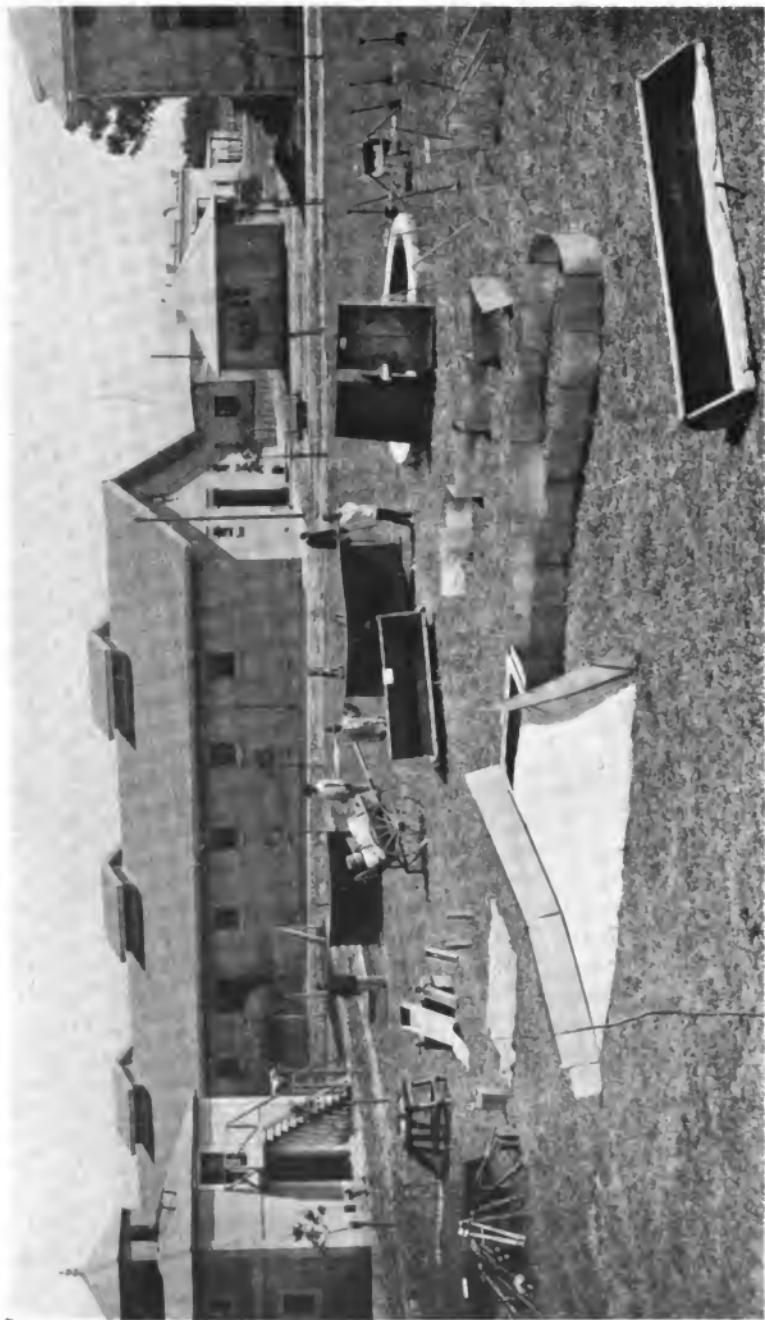
Coincident with the stories of sorrow arose the question of goods and foods. Many manufactured products that had long been imported into South America were curtailed by the lack of shipping facilities, and the importer sought in vain to replenish his stock. Officials and citizens feared a shortage of food products and encouraged the planting of larger acreage. In some cases an official appeal stimulated production. For instance, President-elect Gomez, of Venezuela, called upon his countrymen publicly and through the several State Governments for a more extensive cultivation of the soil. The latter officials echoed the appeal and some of the governors went so far as to offer prizes to the farmer who produced the largest quantities of corn, beans, or rice. What is the result? Venezuela has already shipped to New York 80 tons of corn as her first consign-

¹ By William A. Reid, Pan American Union Staff.



A BATTERY OF BINDERS IN AN ARGENTINE WHEAT FIELD.

About the time these lines are read, the planters of Argentina will be busily engaged in reaping their harvest, which embraces this year more than 17,400,000 acres in wheat alone. As usual, Argentina also has vast areas planted to oats, corn, linseed, and other crops.



A PHASE OF URUGUAY'S EFFORTS TO EXTERMINATE THE LOCSTS.

These insects, long a destroyer of crops in Uruguay and other countries, are now being systematically caught in vast quantities. If plans are carried out, the locusts will be made into fertilizer, soap, and other useful products; hence a pest will be turned to profit.

ment of that product ever sent to the United States or to any country. In addition to corn, many tons of Venezuelan beans have arrived in New York and no doubt will soon be placed upon the market. The growing of these two products in larger quantities, coupled with the universal demand, appears to be having a stimulating influence on Venezuelan agriculture in general, and ere long additional supplies will probably be available. In sugar alone the exports to the United States for the first half of the present year increased in value \$434,000 over the corresponding period of 1916. But grain and sugar are not all this Caribbean country is producing more abundantly. The meat-packing plant at Puerto Cabello which resumed operations a short time ago is to be enlarged to meet the growing needs. Construction work is progressing and soon it is expected to have a capacity for slaughtering 500 cattle per day.

As cattle producing nations of the future as well as at present, authorities are linking Venezuela, Colombia, Bolivia and Paraguay with Argentina, Brazil, and Uruguay. And as evidences of these facts it may be stated that six or more great meat-packing corporations of the United States have transported at least a portion of their activities to the southern continent. During the first five months of 1917 Brazil exported 29,600,000 kilos of frozen beef, compared with only 10,900,000 kilos for the whole of 1916. Two Armour establishments at São Paulo and Santa Anna do Livramento, respectively, have already had a stimulating effect on cattle raising in southern Brazil. Both of these plants are really in the building stage and have not, therefore, reached a normal working capacity. More than \$5,000,000 is already invested in these enterprises and the São Paulo plant, it is stated, will have a capacity for slaughtering 7,000 animals a day, necessitating 3,000 employees.

The stranger may ask where is such a large number of stock to be obtained? All who are acquainted with southern Brazil are aware that for some years stock breeding has been gradually advancing, the ranches following the railroads and other means of communication that have entered virgin territory. One of the greatest stimuli to the stock industry will doubtless be the propaganda to be carried on by the Armour subsidiary companies. Larger numbers of improved breeds of stock will be taken to Brazil, ranchmen will be instructed in animal husbandry, pure-bred animals are to be loaned to breeders, and the industry encouraged in various other ways, privately as well as officially.

In ante bellum days Brazil shipped few if any potatoes to other lands. But the unusual demand appears to have caused a surplus to be grown, as more than 1,000 tons were exported during the first six months of the present year. Mandioca flour was exported from Brazil in normal times at the rate of about 4,000 tons a year; but by



Courtesy of Sr. Alfonso Guerdiel.

SCENE IN THE YERBA MATE FORESTS OF PARAGUAY.

The leaves of this plant have long been used throughout southern South America in making tea. During recent years increasing quantities of yerba mate have been imported into the United States, where the beverage is gaining popularity.



THE SUGAR INDUSTRY IN BRAZIL.

Since the sixteenth century Brazil has been growing sugar cane and exporting sugar in larger or smaller quantities. The high prices realized for this crop is proving a strong incentive for increasing the acreage. The picture shows a phase of the industry in the State of São Paulo.

reason of the call for food, Brazilian producers quadrupled the country's output of this product for the first half of the present year. Again, Brazil has never been an exporter of corn, but she sold in a recent six months period more than 10,000 tons for foreign consumption; a fair indication that demand creates at least an added interest in a crop destined to be far greater in future years.

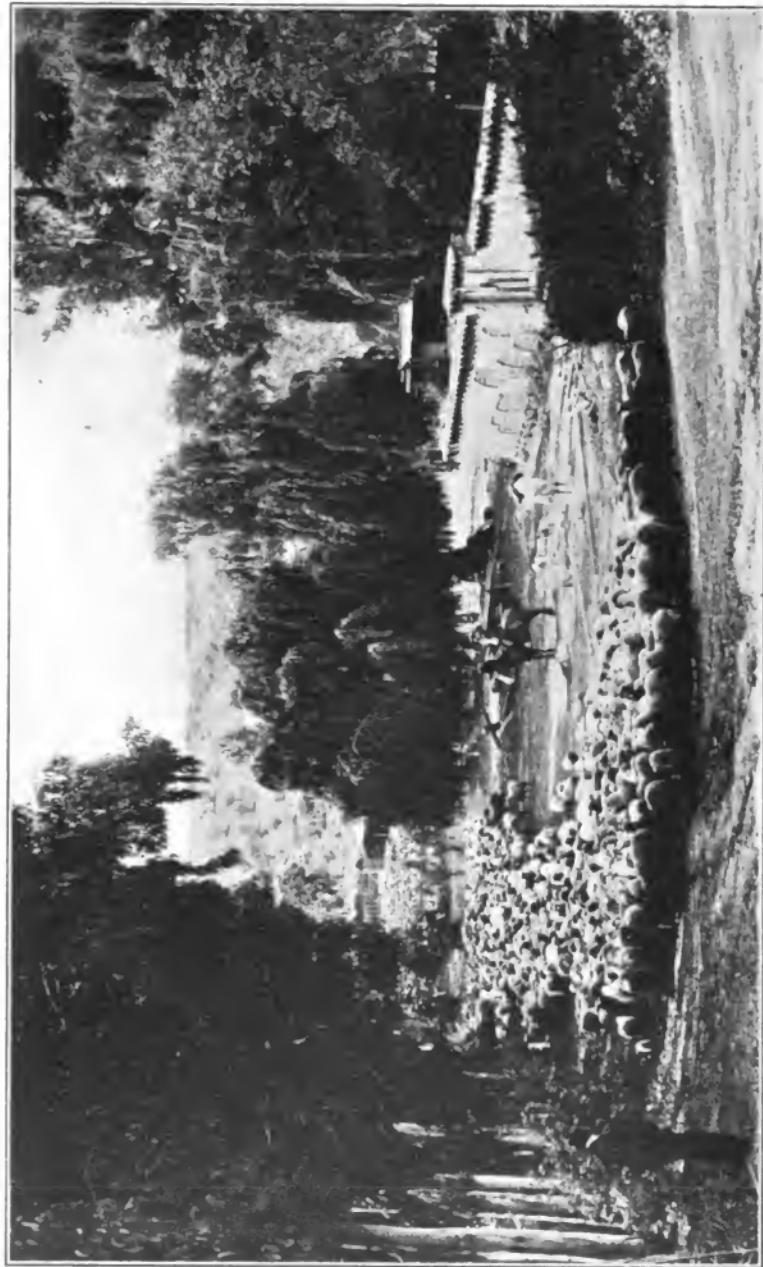
To-day Brazil has rice for sale instead of importing it. At a rice fazenda in the State of São Paulo I found a highly trained young Brazilian clad in khaki with sleeves rolled high, superintending the construction of dams to irrigate hundreds of acres of rice fields. The young man had been educated in agricultural colleges in the United States and was not above laboring under the burning Brazil sun. This case is typical of many other planters who are branching out into lines other than coffee and rubber, so long Brazil's greatest revenue producers. This season Brazil raised in the above-mentioned State alone 2,628,000 bags of rice. Never before has São Paulo produced this large quantity; more than a million bags being available for exportation. From all parts of the country there were exported in the first half of 1917 more than 20,000 tons of rice.

Uruguay is very optimistic over the prospects of her approaching wheat harvest in December and January. The farmers of the country sowed more acres in wheat this year than ever before, and one of the leading journals of Montevideo, *El Diario del Plata*, estimates that Uruguay will have a surplus of more than 7,000,000 bushels of wheat to ship to other lands. The number of acres in wheat is given at 779,736.

Some months ago there was considerable agitation in Uruguay relative to raising larger crops, and an active propaganda greatly aided the movement. Banks and the Liga de Defensa Comercial provided thousands of dollars with which selected seeds were purchased and allotted to farmers who were unable to obtain them in other ways. New stocks, public lectures, and free literature to agriculturists are among the leading factors which have contributed to the favorable food balance foreign countries may expect from Uruguay in wheat as well as in various other foodstuffs.

Furthermore, Uruguay proposes to turn a crop pest into a profit. The ravages of locusts have often caused serious injury or loss of growing grain. This insect has been found to possess nitrogen and phosphoric acid properties in considerable degrees, according to the experiments of Señor Alejandro Otaegui; and plans are being considered for transforming the locust into soap, fertilizer, and lubricating oils. If it is possible to consummate these plans, various crops will be conserved if not entirely saved, aided in growth, and the farmer relieved to some extent at least from the ravages of the insect.

Uruguay's immense herds of cattle, sheep, swine, etc., are too well known to need mention here, further than to remark that it is esti-



Copyrighted by Brown & Dawson and E. M. Newman.

SCENE ON A SHEEP RANCH IN SOUTHERN CHILE.

The unprecedented demand for food products is causing the Chilean ranchman to pay more attention to increasing the herds. Recently a new packing plant was established at Ultima Esperanza for the slaughter of sheep raised in the region of the Strait of Magellan. It is estimated that there are nearly 2,000,000 sheep in that far southern part of the continent.



Photograph by Underwood & Underwood.

CACAO WORKERS IN ECUADOR.

The scene represents the close of a busy day and the workers are homeward bound. This branch of agriculture gives employment to both men and women, and the increasing demand for chocolate is having a stimulating effect on the industry in general.

mated there are in the country something like 35,000,000 live stock. And the annual increase of the herds no doubt will be especially favored by the ranchmen on account of the rising value of all kinds of stock. The latest annual report (South American Journal, Aug. 25) of one of Uruguay's most important packing companies, states that "the herds are being graded up continuously, and the company now has such a large supply of pure-bred animals that they produce fine cattle in excess of their own requirements, and are consequently able to sell the overplus locally at lucrative prices. * * * Much good work has been done on the company's ranches."

When the farmer in the United States sits before his open fire and to some extent rests from his labors afield, the planter on the pampas of Argentina is as active as the busy bee. He is reaping his harvests. The greatest yield of wheat the far-southern planter ever enjoyed was about $13\frac{1}{2}$ bushels per acre, which was the average return from the crop of 1907-8. This yield, of course, falls short of that of lands intensively cultivated, but it forms the basis for estimating the crop of 1917-18. According to statistics compiled by the Argentine minister of agriculture, there are now sowed to wheat something more than 17,400,000 acres; over 3,300,000 acres are in linseed, and 2,827,000 acres in oats. The estimated production, provided no unforeseen agency alters the outlook, is 6,475,000 metric tons of wheat, 1,059,000 tons of linseed, and 1,467,000 tons of oats.

We hear much of Argentina's embargo on grain, but we also learn from recent reports that a commission representing the national grain interests estimates that Argentina will have at least 300,000 tons of wheat for exportation next year without endangering the supply needed for home consumption. During the first seven months of 1917 Argentina exported, according to mail advices from Buenos Aires, 756,364 tons of wheat. This amount is considerably less than for the corresponding period of 1916, the curtailed shipments being probably due to the wheat embargo.

Various countries naturally look to Argentina for meat supplies. Statistics show that country to have about 40,000,000 head of cattle and 85,000,000 sheep, but an unfortunate note is added that the export of meats has more or less strained the resources and in six years there has been a decrease in the number of cattle. The latter fact and the world-wide demand for food will probably act as an incentive to renewed activities in all kinds of stock breeding.

As a cattle country Paraguay is emerging into the limelight of food supply by the introduction of additional foreign capital. One of the unpleasant sights which greets the traveler in Paraguay, especially during the wet season, is the number of cattle to be seen struggling or fast in the mud of swamp lands, the rising waters

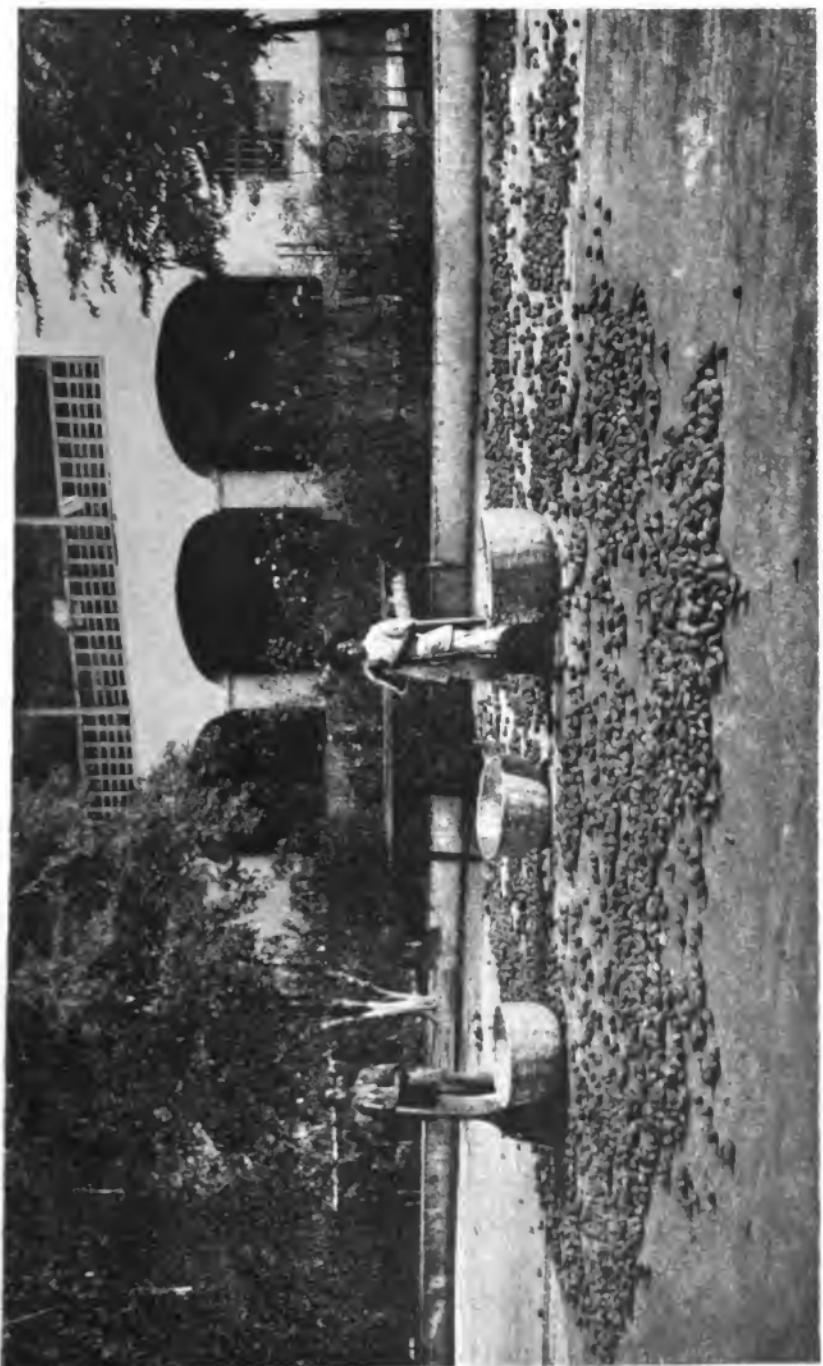


Photo by H. Pittier. Courtesy of the Bureau of Plant Industry, U. S. Dept. of Agriculture.

DRYING TONQUA BEANS AT BORBURATA, VENEZUELA.

Generally the pods are dried, cracked open, and the beans removed in the forest where they are gathered; but sometimes they are transported to the towns just as they are gathered and there prepared for the market. The picture shows the pods spread out for drying preparatory to being shelled.

finally overwhelming them, yet in most cases there are rolling hills near by, offering safety for man and beast. Greater attention to herds, with more cowboys in the field, is gradually lessening this annual loss of stock.

A bill now before the Paraguayan Congress carries a number of provisions for improving the country's stock and otherwise fostering the industry. North American financiers are responsible for several millions of dollars which have been invested recently in vast cattle areas and in building a modern meat-packing plant near Asuncion. This company, with abundant capital, is one of the most promising enterprises that has entered the bounds of Paraguay, and at least one of the important features of the work will be the operation of its own cattle steamers on the Paraguay and other watercourses of the region. Paraguay has about 4,000,000 cattle—only an insignificant number compared to possibilities.

We must not underestimate the food value of fruits. In Paraguay I bought oranges for \$1 per thousand—not indifferent ones, but excellent juicy oranges. Paraguay is a land where the orange and other fruits grow wild; with cultivation, excellent results are obtained. In many parts of the Orient English enterprise has made "orange marmalade" a feature in the problem of feeding the people—in feeding the European, and to a lesser extent in feeding the high-class native. More capital devoted to the orange lands of Paraguay might utilize the oranges of that country as the English have done the fruits in Ceylon. This industry, however, is one of future rather than present-day food supply, although Paraguay is sending oranges in carload lots to Buenos Aires markets.

Chile, Peru, and Bolivia can not at present make liberal contributions of foodstuffs to other countries. These nations are, however, conserving and increasing their supplies for home consumption, thereby creating a tendency to smaller importations. Normally they have been buying large quantities of flour from the United States and elsewhere, but the effects of war have caused them to take inventory of domestic resources. Chile recently placed one of the largest and most modern flour mills at San Antonio. In visiting this establishment, I said to the manager: "Where will you obtain the grain? You require vast quantities." His answer was reassuring—Chile is to export more food products next year, and still larger quantities in the future. The Province of Linares in central Chile illustrates the point. The board of public works of the nation recently approved plans for a million dollar irrigation canal, and in place of 21,000 hectares (hectare=about 2½ acres) sown to wheat in this one province, as at present, the area will be largely increased.

Again, consider the frigid region of Magellan Territory. Meat-freezing plants there have been returning 100 per cent dividends to



AGRICULTURAL SCENES IN BOLIVIA.

Upper: A glimpse of sugar-cane production in the Cochabamba region, now made accessible by completion of the railroad to that part of Bolivia. Lower: A portion of a coca plantation and a few of the workers gathering the leaves.

24353-17-Bull. 5—2

stockholders for several years. A new company is preparing to start operations at Ultima Esperanza (Last Hope) with a capital of \$500,000 and with a sheep slaughtering capacity of 500,000 per year. Naturally this enterprise bespeaks still greater attention to the sheep-raising industry which has long flourished in that far-away region of cold and snow. Meat and wheat, then, are two foods that Chile is preparing to produce in larger quantities, for domestic if not for foreign consumption. This year Chile limited her export of wheat to 700,000 metric tons and beans to 150,000 tons, as a matter of food conservation.

Bolivia's railway construction work reached in July last to the Cochabamba region, thereby tapping a rich agricultural area that formerly had no modern communication with the populous part of the country. Agricultural products to-day are shipped by rail directly to the capital city and other centers of trade. Scarcity of ships on the Pacific, high freight rates, and restricted exports of the usual flour from the United States have induced Bolivian planters to put forth greater efforts—they have been shown that home markets exist for all kinds of substitutes for wheat flour. The extension of the railroad above mentioned and also the Yungas road, now being pushed northward from La Paz into the productive valleys of that almost virgin region, makes additional rice and sugar-cane lands accessible as well as available for agricultural exploitation. Bolivia has long imported sugar; about \$1,000,000 worth in a recent average year. But by reason of the railroad, new life is given to sugar-cane planting, especially in the Cochabamba region extending eastward toward Santa Cruz, and we find to-day 15 steam-power mills, in addition to various others operated by animal power, grinding cane and producing sugar in larger and larger quantities. Rice, molasses, alcohol, etc., are a few of the other crops and products of eastern Bolivia now receiving more attention by reason of the increasing demand and higher prices.

Peruvian planters have been so pleased with the high prices received for their cotton that some of them were turning from food crops to the more profitable cotton growing. Officials of the Government, however, saw in the move a grave condition, and farmers were urged to grow greater quantities of foodstuffs—to plant more acres than in past years. Naturally, we look upon Peru as a vast storehouse of minerals; but in addition to supplying such products, the Republic exported last year more than \$27,500,000 worth of sugar, or double the value of that sold in previous years. This amount reflects a larger acreage as well as higher prices received for the crop.

If Peru and Chile can not supply the world with food products in enormous quantities they do, nevertheless, provide the soil ingredients that make larger crops in other lands. Guano and nitrate from the



INTERIOR VIEW OF A SUGAR REFINERY IN NORTHERN PERU.

This establishment is on the Cartavio estate, the latter furnishing employment for at least 2,000 people.



THE CHICAMITA CANAL, NORTHERN PERU.

This canal illustrates the method employed for conducting water from mountain streams to the arid coast lands. Within the last few years the sugar-cane industry in Peru has made important strides.

coast line of these two nations, as everyone knows, is aiding and multiplying the yield of food crops in widely diversified regions of the world. The greatest difficulty at present, however, is the dearth of ships to transport such materials, and perhaps no better illustration of this deplorable fact can be found than that of a Chilean man-of-war laden with nitrate steaming for North America—a recent occurrence.

The cacao (chocolate) bean is Ecuador's principal food export, and advices from Guayaquil say these beans have been "coming in abundantly." Warehouses are reported to have enormous quantities in store, especially those at Colon, Panama. In September, last, a more or less average month, 6,954,256 pounds were exported from Ecuador, nearly 6,000,000 pounds coming to the United States. The high cost of ocean freight space, however, appears to be growing prohibitive. The rate per ton from Guayaquil to New York has been \$45, a figure possibly higher to-day. To European ports transportation presents still a greater problem. The vessels recently placed in service between Guayaquil and San Francisco under the Norwegian flag may possibly cause some reduction in freight rates on the Pacific and otherwise aid Ecuador's cacao market. The *Gov. Forbes*, of this line, recently delivered 18,000 bags of cacao in San Francisco, while Ecuadorian exporters in contracting to supply 50 tons of potatoes a week to Panama stimulated the growing of potatoes to a considerable degree.

Looking at the food question in Colombia we find that the high prices of wheat flour, much of which has long been imported, is causing many people to consume larger quantities of other foods. A number of Colombian millers import wheat from the United States which now costs delivered in Caribbean ports about \$4 per bushel; this brings the price of flour to \$30 per barrel—prohibitive rates for the poorer inhabitants. The latter have been growing larger quantities of various species of potato, one of which is locally called *ñame*. Bananas also are more largely consumed locally and many of these come from supplies which are not suited to foreign shipment. In 1916 Colombia exported to the United States \$1,667,213 worth of bananas, a considerable increase from the \$863,483 value of the previous year. Sugar exportation from Colombia also nearly doubled in the same period.

At present about 25,000 head of beef cattle are needed annually in the Panama Canal Zone. Colombia is a weekly contributor to this army of livestock, and the Republic's bounty paid to stockmen for each importation of a thoroughbred animal no doubt will be far-reaching in improving herds of cattle, sheep, and swine, all over the livestock regions of that country. A recent stock census shows the Republic to have 3,034,504 cattle, 711,482 hogs, 163,830 goats besides horses, mules, etc.



THE CATTLE INDUSTRY IN COLOMBIA.

Upper: A near view of the quarters of a ranch superintendent in the Cauca Valley. Lower: Another scene in the Cauca Valley, where cattle raising is becoming more and more important. Colombia is now a weekly contributor to cattle for consumption in the Panama Canal Zone.

We feel keenly the rising values of fats and greases, which are soaring to prohibitive prices. Colombia furnishes an illustrative case, which may be duplicated in other parts of South America, where the castor-oil plant is coming to the rescue, in a small if not in a large degree. A Colombian chemist found that oil could be produced locally and cheaply from the bean, and thereby serve domestic needs in lieu of the imported article. As a result of this use of a plant growing wild and long considered of little value, there are now large areas under bean cultivation. In the Department of Santander, according to United States Consul Guyant, 1,500 acres are sowed in the castor bean and several hundred acres in the same crop in the region of Barranquilla, etc.

The price of the bean in Colombian seaports is about 4 cents per pound, and this rate returns a handsome profit to the planter, many of whom use children to gather the ripe pods. Shipments of the bean to New York proved very saleable, and it seems certain that ere long much larger supplies will be available. Castor-oil meal is also one of the newer products of this bean. Coconuts in Colombia, as in other tropical lands, are now being gathered much more seriously than in past years, and as a substitute for creamery butter, we have the product—coconut butter—now on the market in our cities and destined to come in larger quantities.

What are we to understand from these glances at food prospects of a vast continent? Briefly, we see that the subject of food conservation is taking sleep root; that newer and possibly less relished varieties of edibles are coming upon local markets; that agriculture and stockraising are more active generally, and in some instances encouraged by leading banking houses as well as by the governments. Each country shows a deeper interest in producing larger quantities of products. In numerous cases, as we have seen, these larger productions have already reached foreign shores and aided in feeding the multitudes. It may be true that some of the countries of South America have strained a point and permitted a rather too generous exportation of foodstuffs from supplies needed at home; but if such is the case the same fact seems likely to react and stimulate the farmer to plant larger areas. High prices of food crops may also prove even a stronger stimulus to increased production next year.



THROUGH COSTA RICA, THE MAGNIFICENT, ON A MOTOR CAR¹

A WONDERFUL journey it was. Through jungles, across the slopes of foothills, into forests whose tropical luxuriance suggested the foreworld, over rivers and along palm-bordered beaches almost to the Panama line; into the main foothills, too; across great swamps marked by fern-like growths recalling plants of a prehistoric coal age, with giant fronds 60 to 80 feet long, palms, creepers, orchids, flowering vines, lilies, in gorgeous riotous brilliant colors, and birds as vividly hued as the flowers, huge trees rising on roots that, springing from the water, twisted like the folds of Brobdignagian pythons; into busy villages, and historic cities whose courteous people boast the proudest blood of ancient Spain; past neatly ordered estates; by groves of cacao and rubber; through banana plantations embracing tens of thousands of acres.

And up the roaring Reventazon River we went, following the picturesque railway line on one of the strangest rides in the world from modern Port Limon on the Caribbean coast to San Jose, the beautiful capital of Costa Rica on the high interior plateau. A prodigious stream is the Reventazon in high water. It has been known to roll an 80-ton locomotive as lightly as a pebble for 10 miles down its course. One follows it from the low plains adjoining the eastern coast up one of the most appalling gorges in the world, the right of way gradually climbing until the river appears as a silver ribbon far beneath. Approaching Cartago near the summit of the divide the railroad line finally leaves the valley and soon thereafter slips into San Jose.

All told, including main lines, spur lines, and tramways, there must be something like six hundred miles of railroad in Costa Rica. Over all of these we went upon our bounding motor, except on the Government line between San Jose and Puntarenas, the Pacific coast port, over which I took the regular passenger train for the 75-mile run. Also, since not all of Costa Rica may be seen from the railroad, I journeyed by gasoline launch, mule back, and diligencia.

It was not yet light when we first set out from the railroad yards at Port Limon. But the switchmen and track tenders were already

¹ By Hamilton M. Wright.

Upper: Piers upon which the fruit trains are run and from which the fruit is delivered to mechanical loaders and carried aboard ship. Center: Railway yards and warehouses of the Northern Railway. Lower: General view of Cartago, one of Costa Rica's oldest and most attractive cities.

SCENES AT LIMÓN AND CARTAGO.

Photographs by Hamilton M. Wright.



ALONG THE LINE OF THE NORTHERN RAILWAY.

Photographs by Hamilton M. Wright.

[Upper] Zoat, a pleasant and picturesque little railway station in the banana region between Limon and San Jose. Note the attractive residences of officials of the fruit company operating the Zent district. [Center] A tropical forest scene on the Raventazon River, which stream is followed by the railway for many miles. [Lower] Railway passenger train at Squires, a station about 30 miles inland from Limon. The depot stands on the right of the track and only the top is visible.



at their posts and halloo'ed a cheery well-wishing as our slight car gathered momentum and passed from the sleeping town, turned south and west across the river where lay the largest sea turtle farm in Central America, and with clear tracks for the first 40 miles started in the direction of the Panama border.

The air was chill and the speed of the railway motor gave penetration to the cold. Even at sea level it is cold at night and one is uncomfortable without a blanket. Always nature has her compensations. There are, in reality, four distinct climates and four distinct zones of largely differing appearance and production in the little Republic of Costa Rica which, by the way, is considerably more than twice the size of Switzerland and could comfortably support a population of 20,000,000.

There is the moist semitropical climate of the Caribbean coast region down which we were proceeding that morning. It is a region of sudden showers, great rainfall, and hot, moist climate broken by the trade winds, and cool breezes that come from the mountains or are tempered by the sea. For tropical glory and luxuriance, for amazing diversity in plant, insect, and bird life, this region is probably not surpassed in the world.

There is the cool and pleasant, altogether charming climate of the uplands, the Tierra Templada, the great plateau region of the Cordilleras, where San Jose, Cartago, and other cities are located midway between the oceans. There is the cold region of the higher mountains with its chilling mists and often ice and frosts. And, finally, there is the warmer Pacific coast with its distinctively dry season from December until April, where the prolonged absence of rain is evident in less underbrush and jungle than marks the Caribbean side and where, in dry season, brush fires and forest burnings are not unusual.

But back to our motor car. The first shafts of the morning sun gild the hilltops in gold, leaving black shadows in the hollows. Every leaf and petal is bathed in heavy dew. A large bird sits sunning itself and preening feathers on a dead limb 100 feet above ground. Increasing batteries of light unfold the country in panorama. No conservatory in the world, however magnificent its display of orchids and exotic flowers, of majestic palms, or of brilliantly colored and fanciful plants could rival the millions of acres of the dense and wonderful growths beheld in Costa Rica. Great wreaths of mist are drifting from the valleys. Birds are calling from the forests. Kingfishers go winging up the streams and, in the shallow pools, the white plumed heron and her mate hunt frogs and minnows. A young Jamaica Negro and his bride each with a shotgun, out after game, perhaps a luscious tepescuite or paca, perhaps a turkey, pass us on the right of way. Giant trees, 150 to almost 200 feet in

VIEWS OF SAN JOSE, COSTA RICA.

Photographs by Hamilton M. Wright.

Upper: general view of the city. The large edifice in the background is the municipal theater. Center: crowd on the steps of the cathedral awaiting the coming of a procession. Lower: general view of the city.





STREET SCENES IN SAN JOSE.

Upper: A good view of the stately columns of the cathedral fronting on a plaza in the heart of the capital. Center: Another street with imposing buildings. Lower: The Avenida Central. The building over which the flag flies is the legation of the United States. The balconies fronting the street are a special feature of Central and South American architecture.

height, with clear boles 80 to 100 feet up to the first branches, crowd thickly into dark green forests that stretch away in unending masses, merging, finally, into the rough flanks of the distant Cordilleras. These forests, embracing rosewood, mahogany, and more than 45 other varieties of hardwoods, are worth billions of dollars. Ferns, yellow lilies, and morning-glories line the railway embankment. Long vines trail from the tops of the tallest trees to the earth. Orchids blossom in every crevice of the branches and graceful tree ferns rise at the edge of the clearings.

It does not begin to get warm until 9 or 9.30 in the morning and it is not hot until 11. But even at that hour in the glades of the forest and in the forest aisles cut for the railroad lines it is cool. As for underbrush, in these virginal forest growths, there is scarcely any. If one knows the lay of the country he may ride for days at a time without leaving the forest shadows. Swamps may be and usually are impassable. So, too, are forests which have been burned or cut over, thus allowing space and light to encourage the growth of underbrush. But many of the woods have clear floors and the darkness below is only broken where the tropical sun, glinting through the infrequent spaces of the dense tree tops, sends down golden shafts of light. I had heard that there are many snakes in Costa Rica but in six weeks' constant traveling saw but one.

About noon we stopped for luncheon at Estrella, a small hacienda settlement near the end of the line. But before this we had halted to visit a small but thriving cotton plantation, a nursery for the growing of coconut trees, and I had gotten off the car once to photograph a troop of monkeys playing in a lofty tree near the track, but at once they grew silent and disappeared. The cotton grew lustily on a flat of black soil near a river. The coconuts had been planted under the shade of bananas and were almost ready for transplanting to the sandy sea beach.

The midday meal in Costa Rica is usually quite an affair, partly because there are at hand so many appetizing things to be eaten, but more particularly since there are no bounds to the hospitality of a Costa Rican, whether he be rich or poor. In this case we had a delicious pavo, or wild turkey, as the pièce de résistance of our meal, and also some appetizing cuts of a wild hog that had been killed the day before. Oranges, nectarines, bananas, egg plants, alligator pears, Irish potatoes and cabbages from the highlands, lettuce, yams, orange marmalade, and pastries completed a repast that was finished off by the delicious Costa Rican coffee which comes as a bottled extract, the preparation of the coffee requiring only the application of the extract to the warmed milk. In commenting upon meals, it may be observed that Costa Rica is a paradise for the sportsman and nature lover and the abundance of wild game contributes not a little to the menus of



TYPICAL RESIDENCES OF REPRESENTATIVE COSTA RICANS IN SAN JOSE.



Photograph by Hamilton M. Wright.

SCENES IN SAN JOSE.

Left: One of the principal hosteries. Many excursion parties in recent years have taxed this and other hotels to capacity, and a magnificent new establishment is proposed.
Right: New post-office building, under construction when the picture was taken.



the residents and also of the visitors at the hotels. Wild pigeons were served in the hotels of San Jose when the writer was there. There are two well-known varieties of wild turkeys and at least seven game birds of allied genera. Quite as great a delicacy for the table is the magnificent curassow, of which the crested variety is the best known. This fine bird, with broad brown-flecked breast, stands quite as high as its cousin the turkey. It travels usually in groups of from 4 to 12 birds. I have several times seen them in clearings in the forests. Deer abound, wild hogs, and also the smaller peccaries, are very numerous. When feed becomes scarce the hogs migrate, in huge droves, from one portion of the country to another. It happened that I stopped near the scene of one of these migrations, near the flanks of Mount Turrialba. More than 800 hogs were said to comprise the herd, and fresh pork became quite plentiful. This was by no means an unusually large herd, for I am credibly informed that as many as 2,000 sturdy, nervous porkers have been seen in a single herd.

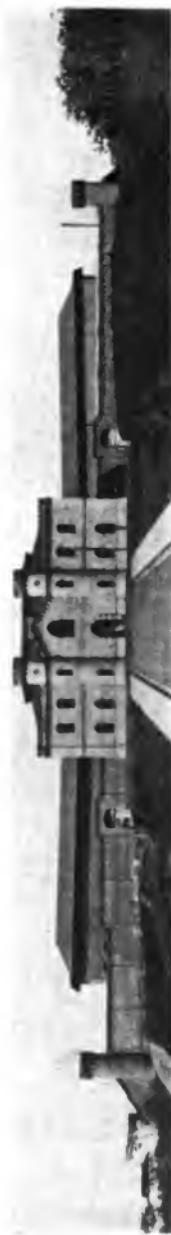
It was dusk that night when we again came into the railroad yards at Port Limon. This attractive city, center of the yards and shops of the Northern Railway of Costa Rica, was well lighted and had thrown aside the cares of the day. The municipal band was rendering a concert in the public park. Well-dressed throngs listened to the music or promenaded in the evening breeze upon one of the two great steel and concrete piers that, provided with railway trackage, cranes, and derricks, give Costa Rica, on the Atlantic coast, unsurpassed facilities for the transport of passengers and freight. Indeed it is customary for chartered steamers with excursionists to be met on the pier by special trains. A seven hours' ride takes them to San Jose.

He who rises early must repair to bed betimes. Next morning at dawn we were well upon our way to the dashing River Reventazon. Sleepy homes we passed surrounded by cacao orchards, or groves of oranges, tangerines, or grapefruit, homes from whose chimneys wisps of gray smoke rose into the chill morning air, telling of a day's work already begun. For the first 35 miles out of Port Limon the railway gradually creeps to the foothills. Low rolling country, haciendas, pastures marked by huge moss-bearded trees, occasional lagoons mirroring their surroundings, and villages of Jamaica natives are features of the landscape. Then comes the abrupt transition into another world; the precipitous journey to the highlands.

The splendor points of the great American Rockies, Pike's Peak, Long's Peak, Mount Harvard, Mount Yale, and Mount Princeton, rise thirteen and fourteen thousand feet above the sea. Those who are inspired by the spectacular phenomena of nature travel thousands of miles to behold these majestic cloud-swept crags and their vast crevasses of ice and snow. But these appealing peaks start from an

SCENES IN THE CAPITAL CITY, SAN JOSE, COSTA RICA.

Upper: Artillery barracks on the extreme right; offices of the minister of war in center. Center: The new penitentiary. Lower: The insane asylum. These large grounds abounding in fine shade trees, shrubbery, etc., afford excellent recreation for patients who are not dangerous.





Photographs by Hamilton M. Wright.

MODERNIZING INFLUENCES IN COSTA RICA.

Upper: The motor car is growing in popularity and is an incentive for constructing improved highways. The car shown in the picture belongs to the post office department and greatly quickens mail service.
Lower: Interior view of one of the new creameries where butter and cheese are manufactured in increasing quantities.

environing territory that is as much as 6,000 feet above sea level. The heights of the mountains in relation to the country about them is to that extent diminished. Contrast with Colorado's peaks the Andean chain extending through Costa Rica. Chirripo Grande, the tallest of these, is 13,424 feet high; Mount Poas and Mount Irazu, the volcanoes, and a score of other peaks are somewhat less. But it is scarce 160 miles from sea to sea in Costa Rica. Her peaks rise almost from the sea itself, the rapid ascent being most pronounced upon the Pacific side.

The glories of the Alps or the Andes, of the Canadian or the American Rockies do not transcend, in my opinion, those of the Central American Switzerland. From the lava swept crater of grim Mount Irazu may one behold two oceans. On a bright day, when the clouds are low, he may look upon that most remarkable of visions, snow white fields of mist, as far as the eye can reach, under the radiant, brilliant light of the tropical highlands, a light undiminished in intensity by the mists of sea level. And at nightfall he may regard the sun, magnified many times, as a ball of molten fire, it sinks into purple, red, and white seas of cloud.

On the way to the lower canyon of the Reventazon one sees many of those curious and intelligent birds, the great golden tailed oriole, called by the Spanish "Ora Pendula." The Ora Pendula, which is about the size of a small crow, iridescent blue-black, and with bright yellow tail, weaves a gourd-shaped hanging nest, from 3 to even 4 feet in length, of the fibers of banana, the long skeins of Spanish moss, or, if these be not handy, of what material it can find. The orifice is small, reaching not more than 3 inches in diameter, but the lower part of the nest is a foot or more wide. I have counted 147 of these nests upon the lofty branches of a silk cotton tree. Strands that, altogether, will measure not more than the thickness of one's little finger are employed to attach the new home to the limb, and their weaving is the first construction undertaken by the clever little artificer, since the entire nest is built from the top downward. The nest does not last more than one season, for the exposure disintegrates the fibers. The golden tails are most companionable birds, and are indifferent to the presence of human beings. Once, while dining, we heard a great commotion in a nest in a nearby tree. It was violently agitated and raucous cries came from within. The parent birds hovered about calling in great distress. Thinking a serpent had gained access a shot was fired through the upper portion. When, to our surprise, there emerged the bloody murderer, a toucan bird. Canaries, linnets, and humming birds are everywhere, and their absence of fear renders a journey most interesting. Vultures, of course, abound. Once, rounding a curve at 35 miles per hour, we came upon one starting to fly from the middle of the track. When



Photograph by Hamilton M. Wright.

COFFEE PICKING.

Upper: A Costa Rican boy hard at work on a plantation. Lower: A typical settlement of workers. Notice that the company employing them has constructed the houses several feet above ground in order to make life more healthful.

PHASES OF COSTA RICAN COFFEE PRODUCTION.
Upper: Coffee drying beds where the grain is exposed to the sun. Center: Large piles of coffee berries and a few of the workers. Lower: One of the mills where the berries are washed and the outer husk removed.

Photographs by Hamilton M. Wright



we reached him he had risen no higher than my shoulders, and almost overturned the car.

For 60 miles the Reventazon River dashes down a boulder-strewn course, a cascade of white. One enters by the lower valley of the Reventazon which, within 2 miles becomes precipitous, the walls of the hills soon rising 1,500 to 2,000 feet. The railroad ascends the gorge until it is almost 1 mile above the river, hanging to the edges of precipitous cliffs. In that brief 60 miles one ascends from the Tropics to the Temperate Zone. Like Jack in the Bean Stalk, he clammers into a new world set above the clouds.

Cartago, ancient seat of learning, is the first city on the line after leaving the canyon of the Reventazon. It has an altitude of 5,000 feet above sea level, and is slightly on the Atlantic side of the Continental Divide. The city has been almost entirely rebuilt since it was destroyed by a trembler proceeding from Mount Irazu a few years ago, and the ruins of that earthquake have been crushed to make fine, broad city streets. Cartago has a population of about 12,000 persons. Near the city is a famous hot spring, much patronized by tourists. Those who visit the summit of Irazu often start from Cartago. The journey may be easily made by mule back in half a day. The incline is gradual. Indeed from Cartago Irazu belies its lofty elevation, 11,200 feet, and seems like some gigantic low-lying mound, lacking, as it does, the sharp cone or apex that usually distinguishes Central American volcanoes.

About 12 miles farther on, and over the divide, is San Jose, splendid capital of Costa Rica, altitude, 3,800 feet and a modern Athens. The city lies as on the floors of a great natural amphitheater with towering hills upon three points of the compass. Its broad streets are paved with granite blocks or else newly concreted. Its shops are smart and up-to-date with notable displays of New York and Parisian fashions. The famed Teatro Nacional, costing \$1,000,000 gold, more than bears out its reputation as one of the finest theaters upon the American Hemisphere. I was particularly attracted by the sculptures in the vestibule, some of the best of which are by Costa Rican artists. That of a mother and child was executed by a promising young sculptor of Cartago. The exterior of the building is of white marble. The interior lobbies and foyer are of colored Italian marble. Old tapestries, mural paintings, gold plate, and sculptures are used in the ornamentation. The magnificent foyer is in Louis XVI architecture though the building as a whole partakes more of Italian than French renaissance. The double stairways leading from the vestibule are after those of the Paris opera house. The seats are of rosewood and mahogany with the national crest stamped in embossed leather. Downstairs adjoining the lobby are two large grill rooms, while, on the second floor, from the mag-



Upper and lower photographs by Hamilton M. Wright.

GLIMPSES OF COSTA RICA'S BANANA INDUSTRY.

Upper: Method of cutting the banana from the tree. Center: Close view of the tree and its fruit on a young plantation. Lower: Loading the fruit on a railway train by which it is shipped to the port. All bunches for foreign markets are cut while green and ripen to a yellow color some days after leaving the plantation.



Photographs by Hamilton M. Wright.

OTHER AGRICULTURAL INDUSTRIES.

Upper: Part of a tobacco plantation. Lower: Thriving cotton plants on the low coast lands near the border of Panama, an infant industry that promises important results.

nificantly frescoed salon one passes to the president's room, the ladies dressing room and other compartments, or directly to the theater itself, in the center. The building offers a wonderful example of restraint and good taste, and is truly magnificent without.

Round about San Jose are many attractive country homes and estates. Some of the estate dwellings are built of adobe in Spanish mission style and some of the more conventional brick. But all are spacious and have the appearance of hospitality and well being. The grounds are attractive and are ornamented with cypress, palms, flowers, and flowering vines that find so congenial a home in Costa Rica. In these countryside residences one is inevitably reminded of the old plantation homes and estates in the South of the United States before the Civil War. Those homes were famous among North Americans for their cordiality and good cheer, a reputation that, after more than 50 years, still flourishes. In Costa Rica social life has the charm of long personal acquaintance. House parties and visits among friends are most frequent, and dancing and music favorite diversions. In the homes of those who entertain one will find not only the American magazines but those of France and Spain.

The roads are well kept and hedged and not infrequently one will see merry parties setting forth on horseback, always an attractive sight, for the young women of San Jose are notable for their beauty. Also, they are accomplished, having a pronounced talent in music and a skill in literature and linguistic abilities that will surpass that of their northern sisters who usually speak but one language.

The people of Costa Rica boast as their ancestry the finest blood of Spain. This lineage is reflected in their very great courtesy. One day while driving in San Jose the driver was accosted by a policeman, whereupon he turned back and drove around the block. A lady in that block was quite ill, the officer said, and he feared the noise of the diligencia on the cobbles might cause her distress. In other ways the attitude of the people is reflected. The longest sentence that may be imposed for any crime in Costa Rica is 20 years. The percentage of crime is less than in most countries. The national penitentiary is an admirable institution with workshops where prisoners are taught furniture making, etc. Vegetables are cultivated by the prisoners in the grounds inside the walls. The national library and the museums are both of interest, the latter presenting very complete exhibitions of the fauna of the country and also relics of the Indian tribes, both present and prehistoric. Much has been written of the educational institutions of Costa Rica, and I could not add to what has been said, except, perhaps, that the work of the high-school students in painting and sculpture is often so well done that it would hardly be considered the work of amateurs and, least of all, of children.



Photographs by Hamilton M. Wright.

ON COSTA RICA'S PACIFIC SHORE.

Upper: A section of the beach at Puntarenas. The latter has about 5,000 population. Center: A glimpse of one of the parks. Lower: Turtle raising, an industry that has in recent years grown to large proportions. The two workmen have captured an extremely large specimen.

Puntarenas, on the Pacific, is the great watering place for San Jose. The train, over the Government railway, leaves San Jose about 8 in the morning, arriving at Puntarenas at 2 in the afternoon. It was with regret that I left the beautiful old capital with its life and gaiety and my new-found friends, who were so eager to make my stay a pleasant one. The train was crowded to the aisles and I was the only American aboard, but it was not long before I found myself chatting with some acquaintances of the country. At each station out of San Jose it was met by throngs of pretty misses in stylish mode, young men smartly clad in riding costumes, with black shining puttees, and numerous dog carts, and diligencias. Often one saw the picturesque old Spanish costume, the short blouse jacket, the loose braided trousers, high-heel boots, and broad-brimmed hat.

At noon all hands filed out of the train for lunch. Fried and fricasseed chicken, veal, lamb, beef, stuffed eggs, vegetables, fruits, iced drinks, beer, and coffee were sold by the pretty young women at the tables. We had been rolling downhill four hours, and still had two hours of descent before we should reach the long plateau that projects into Nicoya Gulf. Already the cypress and eucalyptus trees had disappeared, and great bunches of cacti mingled with palms and geraniums in the gardens.

At Puntarenas the hotels and clubhouses were filled. Throngs of bathers crowded the beach. Children from an orphanage from San Jose were down upon their holiday. But there were several days to wait before my steamer should come to bear me north, so I took some fascinating trips up the Gulf of Nicoya. Some day, it is said, the national railways of Nicaragua may follow the old cart road down to Costa Rica, but the route is a difficult one, and connection between Siquirres and the foot of Lake Nicaragua could probably be easier made. Puntarenas is not as developed as is Port Limon, where the Northern Railway and United Fruit Co. have developed hotels, hospitals, machine shops, storehouses, piers, etc., but with the growth of commerce upon the Pacific this development is sure to come.

One morning early a steamer whistle electrified those who waited. I hurried to the pier, got aboard a launch, and in a few hours saw fade from sight the purple shores centuries ago visited by Sir Francis Drake, but to me more vivid than any history could make them, for they marked the borders of Costa Rica, queen of the mountain lands.



THE SCHOOLMASTER OF TRADE

WHAT have the exporters, the merchants, and manufacturers of the United States to learn in the matter of over-seas trade in order that they may compete with the European countries when peace is restored? And if there be much (or little) to learn, who is the proper schoolmaster? As applicable to the Latin-American trade, how shall these questions be answered?

Manifestly, as referring to the future, answers to the questions involve conjecture as to what that future will be. The European War will undoubtedly bring many changes to the world, even to the world of commerce and business. The future will not be what the past was. Production and distribution will be in some measure changed. The commercial world—and the political as well—in both the warring countries and in the countries not at war, is guessing as to what these changes will be and the measure thereof. Such guesses, if shrewdly made, are the great strategy of international politics and of international commerce as well. But, like all strategy of peace or of war, it must be based upon a correct view of the past and the present. To guess intelligently what will be, one must know not only what is but also what has been.

If the exporters, the merchants, and manufacturers of the United States in the past have proven themselves less resourceful, less energetic, less competent, in fact in any way inferior to their German, French, or English rivals in Latin-American trade, then manifestly they needed to go to school. The only thing worth considering was to find the best schoolmaster. If, again, the exporters of the United States have failed in the past, then in all probability they will fail in the future; and so they still need the schoolmaster. Offhand this failure in the past has been assumed by a large section of the American press, and Germany has been pointed out as the proper schoolmaster. Wonderful stories have been and are yet being told of German commercial success in Latin America. The spreading of such stories is and always has been part of the German program. It creates an atmosphere, which is supposed to have a depressing effect on rivals. The English, French, Italian, or American exporter, and in particular the latter, is apt to be reticent about what he is doing in foreign countries. Not so the German. He claims everything "and then some," if one may use slang. As illustrating this, some time ago a story was cabled from Buenos Aires to the effect that agricultural machinery from the United States imported into Argentina since the

war was giving great dissatisfaction; that German machinery used prior to the war was much better made and more suitable to the country. This story, with much detail as to why the German machinery in general use in Argentina prior to the war was better, was published in a number of American papers with no comment whatever. Other stories of a like kind showing dissatisfaction with American products or methods, as compared with German, are coming every day, and are being printed in the leading papers of the United States. What are the facts? Briefly, that Germany prior to the war had no hold whatever on Argentine agricultural machinery imports. She had been ousted from this field more than 20 years ago—horse, foot, and dragoons. American machinery had done the ousting, because it was better made and more suitable to the country and the crops. The trade was more intelligently handled by American exporters, and as a consequence they secured it. Prior to the war, Australia and England were still making a bid for this trade, but Germany was dead and buried. Yet outside of the exporters (i. e., the United States Harvester Co.), but few people knew the facts when they read this paragraph, and the Harvester people didn't think it worth while to talk.

On the surface, German commercial methods in Latin America appeared to be successful, but when examined closer the fabric was seen to be somewhat shaky. In teamwork (i. e., the coordination of all elements in furtherance of the single purpose to secure trade for Germany) the structure appeared perfect, if one left out of consideration the ethics of the case. Not only did the structure appear perfect, but every kind of a side prop was used. In Germany the manufacturers, the banks, the producers and importers of raw material, the trade and industrial school's, the newspapers, the universities, the selling agencies, the railways, and even the labor organizations all moved in one groove, and that groove was chise'ed out by the German Government. A tariff system was devised which effectively assisted German over-seas trade, both imports and exports, and at the same time protected German home industries. The whole nation marched as one man. The organization was not confined to Germany; it extended abroad. It took in the steamship lines and German banks and merchants wherever located. Its scouts were in every field. Its influence was seen and fe't in enterprises not ostensibly German. In Latin America wherever there was a German there was a propagandist of German methods and trade. Nothing was neglected. Every influence, social, sentimental, commercial, or political, was used for the benefit of German trade or to the injury of German rivals. Over all was the diplomatic and consular services directing and driving everything into the German groove.

Against this perfected system the individualism of the United States or of England or France might have seemed impotent, but it

did not prove so. Before the outbreak of the war German trade was gaining nothing, at least nothing worth the while, in Latin America as against the trade of the three countries mentioned, or for that matter against the trade of any other commercial country—Belgium, Holland, Italy, Spain, etc. In fact, Germany was losing ground slowly but surely. The German machine, effective as it has proven itself in war, was not effective in peace. To the superficial observer this may not have been apparent, and if one must judge from the loud boasting of the Germans—not apparent to Germany—but this latter does not follow. In fact there is much to show that thinking Germany realized before the war that German trade and industry was playing a losing game. To understand how Germany was losing trade in Latin America one must view the field, both territorially and also from the standpoint of the commercial progress of Latin America itself. Was Germany or any other country outstripping its rivals in territorial trade gains? Most certainly not Germany. On the contrary, the United States, beginning at the Mexican border, had extended its trade, both import and export, prior to the European war, over Mexico, Central America, the adjacent West Indian Islands, and down into South America, almost completely ousting Germany and all other countries therefrom. With tentacles far flung the body of American trade was slowly but surely creeping southward, keeping pace with the progress of the countries themselves and overwhelming, step by step and country by country, English, German, and all other European trade. Meanwhile, American news and trade papers and American economists and politicians joined in chorus, led by the German choirmaster, all singing the praise of German endeavor in Latin America.

Brazil, Bolivia, Paraguay, Uruguay, Chile, and Argentina were the strongholds of the German trade. Here, if anywhere, is to be found that so much heralded German commercial success. Yet German exports after 30 or 40 years of endeavor represented less than one-fifth of the imports of these six countries, less than 70 per cent of the imports from the United Kingdom (without colonies), and only about 25 per cent more than the imports from the United States. The figures in 1913 were: United Kingdom, \$255,034,179; Germany, \$175,744,271; United States, \$141,540,585.

The center of the German effort to capture Latin-American trade was in Argentina, and German exports to Argentina represented nearly one-half of the whole of German exports for the six countries, including Argentina, and nearly one-third of the total to the 20 countries of Latin America. German exports in 1913 represented 16.9 per cent of the total of Argentine imports for that year. The percentage for 1910 was 17.4; for 1911, 18; for 1912, 16.6.

The following table shows the percentages that the imports from the seven leading commercial countries bear to the total Argentine imports for the years 1883, 1893, 1903, and 1913.

Countries.	1883	1893	1903	1913
United Kingdom.....	38.3	32.7	34.2	31.1
Germany.....	8.7	9.4	13.0	16.9
United States.....	6.1	7.9	12.7	14.7
Italy.....	4.3	4.2	11.2	8.3
France.....	19.2	17.8	9.7	9.0
Belgium.....	4.1	7.7	4.1	5.2
Spain.....	4.7	5.0	2.7	2.9

The table shows a large and progressive growth in German trade for 30 years, gained almost entirely at the expense of France. The apex of German trade was in 1911—United Kingdom, 29.6; German, 18; United States, 14.3; Italy, 8; France, 10.4; Belgium, 5.3; and Spain, 3.1. In 30 years Germany increased its proportion of the Argentine trade 94 per cent, Italy 94 per cent, and the United States 141 per cent. All the other countries except Belgium lost, France most heavily. When one considers that in Argentina, the very center of German trade activity, the United States made progress at a pace 50 per cent greater than Germany, one begins to lose faith in the story of wonderful German trade efficiency. If, however, one goes a little deeper into the character of the trade, he begins to see that the truly wonderful story is that of the advance of United States trade. In 1883, 52 per cent in values of United States exports to Argentina were spirits of turpentine, unwrought lumber, and kerosene oil. There were some plows, agricultural machinery, and unbleached cotton cloth, and these represented the bulk of the articles which competed with German or English goods. In 1913 turpentine, lumber, and kerosene represented only 22 per cent, and nearly all the remaining 78 per cent was of competing goods.

So that we see that even in Argentina, the stronghold of German trade, the United States advanced more rapidly than Germany, notwithstanding the perfection of the German machine centered there, with its steamships, banks, and traders, the United States having neither ship nor bank and scarcely a trader in the country.

Both Germany and the United States are new entrants in the race for over-seas trade in manufactures, but Germany was first in the field. German manufactures were pouring into Latin America from Mexico to Argentina in competition with English and French goods years before the United States was shipping anything to these countries, except flour, codfish, lumber, and the like. Yet in 1913, prior to the outbreak of the war, the United States had passed Germany in 14 of the 20 countries of Latin America—that is, the United States exceeded Germany in exports to these 14 countries in the ratio of more than 4 to 1—\$187,412,096 to \$43,822,005. In the remaining six countries (Argentina, Brazil, Chile, Paraguay, Bolivia, and Uruguay) the United States trade was over 80 per cent of the German trade—United States \$141,540,585, Germany \$175,744,271. For the whole 20 countries the United States export trade (Latin American imports in the table following) exceeded the German exports in the proportion of 3 to 2. This scarcely looks like the American business man needed the German schoolmaster prior to the war.

LATIN AMERICAN TRADE—1913.

	Totals.		United States.		United Kingdom.		Germany.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
Mexico.....	\$97,886,169	\$150,262,808	\$48,643,778	\$116,017,854	\$12,050,047	\$15,573,522	\$12,610,285	\$8,219,088
Cuba.....	147,758,736	161,823,036	71,987,135	131,783,619	16,151,786	18,127,168	9,473,543	7,375,548
Dominican Republic.....	9,272,478	10,409,947	5,766,061	5,600,768	730,191	241,810	1,677,523	2,085,384
Guatemala.....	8,100,123	11,315,539	5,066,565	1,000,000	319	1,000,000	1,000,000	1,000,000
Salvador.....	10,062,328	14,449,926	5,633,000	3,923,354	1,650,387	1,000,029	2,043,349	7,463,537
El Salvador.....	7,173,345	9,928,724	2,491,146	523,851	1,043,946	705,607	713,327	1,090,694
Honduras.....	5,132,678	3,300,254	3,457,074	2,809,188	712,730	13,467	538,327	1,76,112
Nicaragua.....	5,770,006	7,712,047	3,244,088	2,722,385	1,150,611	968,564	619,213	1,887,698
Costa Rica.....	8,775,497	10,432,533	4,515,471	5,297,146	1,303,187	4,304,436	1,355,417	1,078,167
Panama.....	11,367,000	5,383,027	6,378,702	2,465,431	65,024	2,207,738	216,939	509,904
Venezuela.....	18,060,103	28,483,759	9,944,136	8,475,531	4,206,294	5,306,000	2,066,986	5,363,768
Colombia.....	28,335,900	34,315,800	7,629,300	18,961,800	5,837,400	2,617,926	4,012,100	3,216,200
Ecuador.....	8,826,089	15,789,367	2,817,734	3,833,728	1,620,092	1,620,092	1,563,129	2,627,333
Peru.....	29,591,452	44,409,610	8,530,525	14,741,639	16,389,110	5,132,038	5,132,038	2,906,841
Brazil.....	326,428,505	315,104,687	31,296,682	102,562,923	79,881,008	41,701,815	44,392,410	44,043,754
Bolivia.....	21,457,505	26,531,260	1,577,200	218,185	4,329,659	29,548,087	7,835,632	3,109,758
Paraguay.....	7,876,397	5,402,001	471,678	2,254,312	1,2,500,000	2,176,606	1,198,696	1,12,000
Uruguay.....	50,666,000	65,142,000	18,000,000	2,972,222	1,5,500,000	1,12,500,000	1,9,800,000	1,12,000
Chile.....	120,754,001	144,651,312	20,082,158	36,102,211	156,585,741	29,575,158	30,722,741	29,575,158
Argentina.....	698,711,966	668,999,110	60,171,967	22,207,965	126,659,966	116,756,777	69,172,279	56,178,398
A.entina.....	1,326,639,784	1,547,989,270	328,952,061	481,127,102	324,777,740	219,596,276	193,394,915	12,49
Totals.....	1,326,639,784	1,547,989,270	328,952,061	481,127,102	324,777,740	219,596,276	193,394,915	12,49
Per cent of total.....	100	100	24,79	31,06	25,73	20,98	16,55	12,49

1 Estimated.

In reading the table above it must be remembered that it is compiled from Latin American official statistics converted into United States money and that "imports" and "exports" are from the Latin American standpoint—i. e., imports into the several countries of Latin America and exports therefrom.

Figures are sometimes quite eloquent if one knows how to read them, but they never tell quite the whole story. Nearly \$220,000,000 of trade that Germany had looks impressive, although much below the figures for the United States or for England. The point that the figures do not tell is that the German trade was precarious, somewhat artificial, and by no means well based. Its bases were long credits and cheap goods. Long credits and cheapness are undoubtedly attractive baits with which to fish for trade, but not necessarily for the best kind of trade. Furthermore, long credits and cheapness are like boomerangs, having a return curve often to the hurt of the user. It was notorious that German losses in Latin America were much greater than British or American losses. Many well-informed persons believe them to be greater than both combined. The Germans had what amounted to an almost complete monopoly of the bad risks. On the contrary, American losses from bad credits were almost negligible. The leading New York house in the South American export field, through one of its officials, has stated that its losses in South America, extending over a long period, amounted to a very small fraction of 1 per cent.

No doubt Americans have been too conservative. The writer of this article has said so often, but, on the other hand, he does not believe that German methods in granting credits were either wise or that in the long run they made for increased business. But it was in the matter of cheap goods that German methods at their worst were seen. Germany treated Latin Americans as on a plane with Chinese and Central Africans. It was thought that anything might be sold if only cheap enough. Price was everything; quality nothing. The result might have been foreseen. The flood of cheap, flimsy, and gaudy Brunnenwaren that poured into Latin America undermined the German reputation. The German stamp on an article was a grave handicap even when the article itself was not bad. It may be said that there were a few, but very few (principally textile), manufactures of German origin which kept up the standard. Even the dishonest subterfuge of placing American and English labels on German goods did not save the situation. Just prior to the European War German trade in most of Latin America was in such a parlous state as to be in danger of immediate dissolution. This was due to many causes, most of which are not mentioned here, but no other had greater weight in breaking down the German commercial structure in Latin America than this loss of reputation due to cheap and inefficient goods.

In 14 of the 20 Latin-American countries, notwithstanding the strenuous efforts made by Germany to acquire or to preserve the trade, the result had been practically failure. The imports from Germany in these countries was only slightly over 11 per cent of the whole and less than one-fourth of the imports from the United States.

A careful consideration of the figures above may with propriety lead one to believe that after all the United States has no very great need for a schoolmaster in matters of over-seas trade—at least not as to Latin American trade.

W. C. W.

PLATINUM--WITH ESPECIAL REFERENCE TO LATIN AMERICA

OF the two really "noble" metals, metals that possess at once malleability and ductility, and are not attacked by most of the acids, namely gold and platinum, the latter has now become many times the more valuable. It is indeed difficult to realize at present that in the first half of the past century, after the discovery of platinum in the Urals, the Russian Government issued a platinum coinage, the intrinsic value of the coins being reckoned as less than six times that of silver, and only a little more than one-third that of gold, whereas in the past year, 1916, platinum sold at five times the value of its weight in gold.

The Russian platinum coinage, begun in 1828, in the reign of Nicholas I, consisted of 3-ruble, 6-ruble, and 12-ruble pieces, worth (at par) \$2.40, \$4.80, and \$9.60 according to the value of the ruble at that time; the coins contained about 2 per cent of iridium. As the 3-ruble piece weighed 10.31 grams the metal was considered to be worth but 23 cents a gram (\$7.15 a troy ounce). By ukase of June 22, 1845, the further coinage was stopped. This was due to the rise in the value of platinum and the consequent exportation of the coins for their metal worth.² The total amount was as follows:

Denominations.	Number of pieces.	Weight in grams.	In troy ounces.
12 ruble.....	3,471	143,545	4,615
6 ruble.....	11,847	406,739	13,076
3 ruble.....	1,373,091	14,190,228	456,216
Total.....	1,392,012	14,740,512	473,907

¹ By Dr. George F. Kunz.

² Gen. J. F. Schubert "Monnaies russes des derniers trois siècles," Leipsic, 1857, p. 276. (Atlas, Pl. XXXIV, Figs. 955, 956, 957; paper by "W. C. W." in the American Journal of Numismatics, Vol. XXXVII, No. 3 (January-March, 1903), p. 75.)

RELACION HISTORICA

DEL VIAJE A LA AMERICA MERIDIONAL HECHO

DE ORDEN DE S. MAG.

PARA MEDIR ALGUNOS GRADOS DE MERIDIANO
Terrestre, y venir por ellos en conocimiento de la verdadera Figura,
y Magnitud de la Tierra, con otras varias Observaciones
Astronomicas, y Philicas

Por DON JORGE JUAN Comendador de Aliaga, en el Orden de San
Juan, Socio correspondiente de la Real Academia de las Ciencias de Paris,
DON ANTONIO DE UTELO, de la Real Sociedad de Lodiore:
ambos Capitanes de Fragata de la Real Armada.

PRIMERA PARTE, TOMO PRIMERO.



IMPRESA DE ORDEN DEL REY NUESTRO SEÑOR
EN MADRID

Por ANTONIO MARIN, Año de M DCCCLXVIII.

THE FIRST PRINTED MENTION OF THE EXISTENCE OF PLATINUM.

Left: Facsimile of the title page of the book containing the first printed mention of platinum. This is the first volume of the account written by Don Jorge Juan and Don Antonio de Ulloa of their journey to South America in 1735, with the French expedition, to measure a degree of the meridian for the determination of the true figure and the magnitude of the earth. Printed in Madrid in 1746. Right: Facsimile of the page in Don Antonio de Ulloa's "Relacion Historica de Viaje á la America Meridional," in which appears then mention of the metal platinum. It is here called "a stone of such resistance, so that it can not easily be broken or reduced in size by a blow delivered on a steel anvil."

The nominal worth of these coins was about \$3,000,000, but the metal in them would now bring nearly \$50,000,000. It seems probable that the great demand for platinum for electrical uses in the sixties caused the melting down of most of these coins for they are now extremely rare.

A precursor of the legal Russian coinage of platinum was the counterfeit coinage of Spanish doubloons (gold coins worth \$8.24 from 1730 to 1772, and \$8.08 from 1772 to 1786). A piece of the same size was struck in platinum and the surface was then gilded; as the specific gravity of the only partially refined platinum was approximately that of gold, these spurious pieces could be circulated without much difficulty. In our day such a counterfeit doubloon would be worth intrinsically about \$40, even taking into account the lower grade of the platinum used.

In view of the many uses to which platinum can now be put and of its rapidly increasing value, it seems strange that European knowledge of its existence is dated not farther back than 1735, when the South American deposits, now within the limits of the Republic of Colombia, were visited by the Spanish traveler Don Antonio de Ulloa (1716-1795), a member of the Royal Society of London, who had been appointed with Don Jorge Juan to accompany a French scientific expedition sent out by the Government to execute the measurement of an arc of the meridian on the plain of Quito. The scientists chosen by the Académie des Sciences for this purpose were La Condamine, Godin, Bouguer and Joseph de Jussieu. Although the first publication of Ulloa's observations was made in his "Relación histórica del viaje á la América meridional," issued in two folio volumes at Madrid in 1748, specimens of the new metallic ore had already been brought to England from Jamaica as early as 1741, by Mr. Charles Wood, an English metallurgist, the material having reached him by way of Cartagena in the then New Granada, later a part of Colombia. New Granada was constituted a separate viceroyalty in 1740, the territory having previously been under the rule of the viceroy of Peru. Of the appearance and qualities of the new metal Mr. Wood stated¹ that the "Platina de Pinto," otherwise called "Juan Blanco," was smooth and brilliant, of uniform structure, and not liable to rust or tarnish on exposure to the air. He adds that the Spaniards did not take it from veins as ore, or as metallic mass, but in powder or small grains. He believed that it was rarely secured entirely pure, since in all the examples he had seen he always observed an admixture of black and shining grains, similar to those found on the coasts of Virginia and Jamaica, this being a rich vein ore, attracted by the magnet; there were also generally certain particles of a yellowish hue which seemed to be of a different nature.

¹ William Watson in "Philosophical Transactions," Vol. XLVI (1751), pp. 584-596.



Photograph by C. H. Cushing.

PLATINUM IN COLOMBIA.

The new town of Andagoya at the confluence of the rivers San Juan and Condoto. Andagoya is the center of platinum-dredging activities on the Condoto.

He asserted that the Spaniards had learned the secret of melting it, and since they made many sword-guards, buckles, snuff-boxes, etc., of it, he concluded that it must be quite abundant. The specimens from Cartagena had been bought for a much lower price than that of silver, and he had learned that it had formerly sold at a still lower price. The designation "Platina de Pinto" had been given because the specimens in question came from the River Pinto. the name "platina" itself was equivalent to "little silver," from its resemblance to the latter metal.

There is recorded a statement made in 1743 by a certain Emmanuel Mendes de Acosta to the effect that, in the beginning of 1743, a warship brought from Jamaica to some London merchants, ingots having the color, the structure, and the specific gravity of gold; however, after having been subjected to the most searching tests they were found to be only 20 carats fine. Moreover, Mr. Charles Wood stated, on the authority of a man named Ord, a factor of the South Sea Co., that the latter once received in payment of a debt of 12,000 livres, ingots in which the gold was alloyed with such an amount of platinum that he could neither dispose of it, nor find any means of refining it.¹

The famous scholar, Julius Cæsar Scaliger (1498-1558), in his commentary on the "De Subtilitate" of Jerome Cardano, states that, according to information he had received, there existed in the region between Mexico and Darien a number of mines whence was extracted a metal which could not be fused by fire nor by any of the processes so far known to the Spaniards. This he brings forward to combat the common doctrine that all metals were fusible.² It is in no wise impossible that we have here, in 1557, when Scaliger wrote, the very earliest notice of platinum.

While the credit of furnishing the first definite data in relation to the new metal has been commonly accorded to Sir William Watson, because of his communication of the facts in his possession to the Royal Society of England in 1750, the most important of the papers he presented was that by Dr. William Brownrigg (1711-1800) and the experiments cited are those the latter made with specimens furnished to him nine years before by his relative Charles Wood. Brownrigg was both physician and chemist and had graduated from the University of Leyden in 1737.³

¹ Le Platine, l'or blanc, ou le huitième métal, recueil d'expériences faites dans les Académies Royales de Londres, de St. Omer, &c., sur une nouvelle substance métallique tirée des Mines du Pérou, qui a le poids et la fixité de l'or," Paris, 1758, p. 15. This anonymous work bears a notice from the French chemist Macquer, under date of Oct. 20, 1751, expressing his approval of it. Indeed, some bibliographers incline to attribute the compilation to him, but the author was probably Jean Morin, Canon of Chartres Cathedral.

² Iulii Caesaris Scaligeri, "Exoticarum exercitationum Liber XV de Subtilitate ad Hieronymum Cardanum," Francofurti, p. 1502, p. 323; Exercitatio LXXXVIII "Quae ad metalla."

³ Dictionary of National Biography, Vol. LX, p. 47 (New York, 1899), and Vol. VII, p. 85 (New York, 1886).



WASHING FOR PLATINUM IN THE STREETS OF
QUIBDO, COLOMBIA.



Photograph by Mr. Hennessy.
SCENE ON ONE OF COLOMBIA'S RIVERS, WHERE
PLATINUM IS OBTAINED.

The Swedish chemist, Henry Theophilus Scheffer (1710-1759), is said to have been the first to call platinum "white gold." In the Memoirs of the Royal Academy of Sweden¹ he states that he received a specimen of the ore in 1750. It was a dark-colored sand. He notes the extreme facility with which arsenic combined with platinum, even when but a twenty-fourth part was added to the metal. He sums up his results as follows:

1. That this body, without regard to its hardness, is a metal, since it is ductile.
2. That it is a perfect metal, as stable as gold or silver.
3. That it is none of the six old metals, for it is decidedly a perfect metal that contains neither lead, copper, tin, nor iron, since it suffers no diminution; and even if some particles of these metals should be accidentally combined with it, it would none the less be a perfect metal. Hence it is an eighth metal differing from those known up to the present time.
4. This white gold could not serve for uses in which it would have to be employed alone, since it is too difficult to melt except when combined with some other metal.
5. Its nature most closely approaches that of gold, so that it may justly be called "white gold," but it differs from gold by its tenacity, color, hardness and the degree of heat necessary for its fusion.

The earliest known treatise on platinum is a very interesting little French book entitled "L'Or Blanc, ou le Huitième Métal," published in 1758, and containing in abridged translation almost all the information that could then be gathered concerning the new metal; it is believed to have been written by Jean Morin (1705-1764), who became a canon of Chartres Cathedral, and professor of chemistry in the college of that city. In 1736 he was elected a corresponding member of the Académie des Sciences in Paris.

In the "Encyclopédie" of Diderot and D'Alembert issued in 1774, we read that some Hollanders who had been deceived on the South American coast by counterfeit gold ingots made of platinum, on making a second visit to the place where the deceit had been practised, seized upon the guilty Spaniards and hung them to the yard-arms of the Dutch vessels.

Among the early attempts to determine the specific gravity of platinum, those of William Lewis reported to the Royal Society in London in 1754, clearly show the difficulty in obtaining really pure platinum by the processes first employed. Lewis states that the crude platinum brought to London had a specific gravity of 16.995 according to a test made with a weight of 2,000 troy grains of the metal (about 4 ounces). When, however, the largest platinum grains had been screened so as to separate them as far as might be from foreign

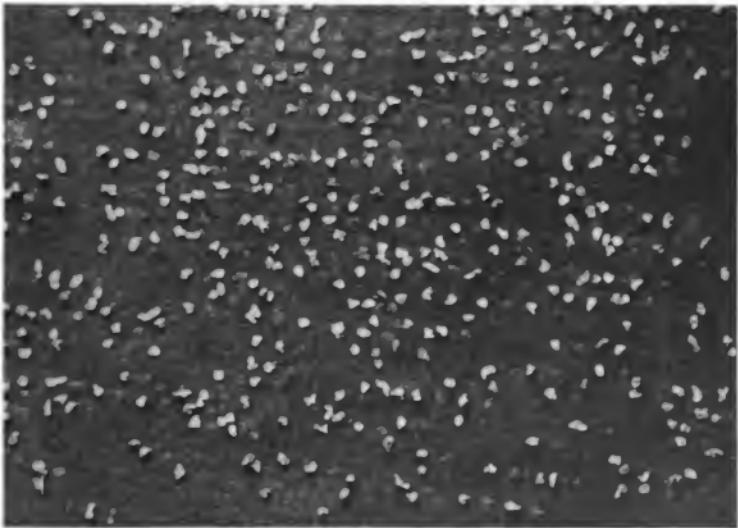
¹ Handl. Akad., Stockholm, Vol. XIV (1751), p. 275.



Photograph by C. H. Canning.

A DREDGE OPERATING ON THE RIO CONDOLO IN COLOMBIA.

Platinum is frequently, although not always, found in the gold-bearing gravels of the Colombia rivers.



GRAINS OF CRUDE PLATINUM (NATURAL SIZE).

Average size of grains of crude platinum from Colombia, South America, illustrating the difference between these and the large Russian nugget shown on page 617.

substances, had been purified by fire, and then treated with aqua fortis and sal ammoniac they were found to have a specific gravity of 18.213. Lewis adds that the platinum would be much heavier if it were still further purified, since he found that there still remained an admixture of heterogeneous and light substances.¹ As is known, the refined platinum of to-day has a specific gravity of 21.5.

It was only in 1783 that a veritable platinum ingot was made by a European chemist. The honor of this accomplishment belongs to the French chemist Chabaneau (1754-1842) a native of Nontron, Department of Dordogne, who gained such a high reputation that the reigning Spanish sovereign, Charles III, called him to Madrid and created for him a special chair of mineralogy, physics and chemistry. He was given lodging in a palace and an annual stipend equivalent to \$2,200. It was in the laboratory with which he was generously provided here that he found the secret of rendering the new metal malleable, by taking the platinum sponge while it was at white heat, in the very moment of formation, and hammering it repeatedly while in this state.²

Of the first ingot made by Chabaneau his biographer, Jules Delanove, writes:³

Three months later, at the home of the Count of Aranda, there appeared upon a table an ingot some 10 centimeters cube (about 4 inches), with a beautiful metallic luster; it was malleable platinum. The enthusiastic Count started to pick it up, but failed to move it. "You are joking," said he to Chabaneau, "you have fastened it down." "No, indeed," said the professor, and he raised the little ingot easily, though it weighed some 23 kilograms (about 50 pounds). The Count had not thought that the light platinum sponge would thus appear as the heaviest of all (then known) metals.

In 1783 the French chemist was accorded a patent for his discovery. When his patron, Count de Aranda, was appointed Spanish ambassador to France in 1787, Chabaneau accompanied him to Paris, so that by the exercise of his skill he might show how some of the malleable platinum could be worked up into ornaments for the French crown. The French court goldsmith Jeannety had been commissioned to undertake this work, but not being able to fathom the mystery of the process used by Chabaneau, was forced to revert to the method proposed in 1779, by Achard, of first alloying the metal with arsenic so as to make it fusible and then purifying it as much as possible of the admixture by successive treatments.

What are believed to be the oldest ornamental objects made of platinum, were excavated in the province of Esmeraldas, Ecuador.

¹ Philosophical Transactions, Vol. XLVIII (1754), p. 638.

² This and the succeeding paragraph are drawn from a most interesting paper contributed by Prof. James Lewis Howe to the Popular Science Monthly, January, 1914, pp. 64-70. It embraces liberal excerpts from a memoir of Chabaneau, written by M. Jules Delanove and printed at Perigueux in 1862.

³ Loc. cit., p. 68.



Courtesy of Sr. Arcesio Penagos, of Buenaventura, Colombia.



Courtesy of Baker & Co. Inc., New York.

PLATINUM NUGGETS FOUND IN THE CHOCO REGION, COLOMBIA

Upper: Natural size of nugget, which is the property of a wealthy merchant of Buenaventura, Colombia. It is the largest ever found in South America, its weight being 800 grams. Lower: Natural size of nugget, found in 1896. Its weight is 635 grams, and contains about 80 per cent of pure platinum. Late reports from Colombia announce the recent discovery of extensive platinum deposits in the Cáceres district, Department of Antioquia.

by Mr. D. C. Stapleton. Most of them are perforated for attachment, or for stringing, and can be described as circular or elliptical spangles. There is also a nose ring. These ornaments are made of gold and platinum combined, one or two thin layers of the latter having been hammered onto a thin layer of gold. They are thought to date back 2,000 years at least. Similar objects have been found in prehistoric graves in the island of Tola, at the mouth of the Santiago River, Ecuador. Those relics are now in the Museum of the American Indian, New York City.¹

In view of the fact that Spain was probably the first country to receive information in regard to platinum, and probably also the first to receive specimens of the new metal, although the printed and dated records might seem to give the priority to England, it is perhaps something more than a coincidence that it was on Spanish soil that platinum was first discovered in Europe. This initial discovery was made at Guadaleañal, in the Province of Estramadura.² Here it occurred in some gray silver ores.

Platinum was found in the gold mines of Dakovlov, in the Urals, Russia, in 1819, in the sands of Neviansk, Bilimbayensk, in 1822, and in the Kurshinsk factories in 1824. In 1825 the richest Uralian sands of the Sucho-Vissimsk works in the district of Nizhni-Tagilsk were discovered. Daubrée found, in specimens of the country rocks from the mines of the Tagilsk district, platinum in association with olivine, serpentine, and chromic iron.³ The largest nugget found in Russia came from this district and weighs 23.5 funts, or 9,628.88 grams (25 pounds 9.45 ounces troy).

The discovery of platinum in the Demidov mines of the Nyzhni-Tagilsk region in 1825, was made by an employee named Juan Makarovich Belov, as he was in search of gold. Of this he found only a small quantity, but a considerable amount of another metal, which upon being thoroughly tested proved to be platinum. This led to an extensive exploitation of the deposits, and by July, 1840, no less than 21 mines had been opened.⁴

The richest platinum sands are those of the Iss River, which, flowing down the eastern slope of the Uralian watershed from its source in latitude 58° 5' N., follows a tortuous course for some 30 miles to the point where it enters the Tura. Another tributary of

¹ Communicated by Director George C. Heye of the museum in letter dated June 21, 1917. See Marsha H. Saville, "Archaeological researches on the coast of Esmeraldas (Ecuador)," Proc. of the XVI Int. Cong. of Americanists, Wien, 1909, pp. 341, 343.

² L. N. Vanquelin, Annales de Chimie, Vol. LX, p. 317, 1806; Wullastor, "On Platina and native palladium from Brazil," Phil. Trans., Vol. XCIX (1809), p. 189.

³ Translation of paper by Prof. Inostranov, of the Dept. of Geol. and Min. of the Petrograd Soc. of Naturalists, Nov. 8, 1892. See J. F. Kemp, "Platinum and associated metals," Bull. 193, U. S. Geol. Surv., pp. 76-81.

⁴ Schriften der in St. Petersburg gestifteten Russisch-Kaiserlichen Gesellschaft für die gesammte Mineralogie, Vol. I, Pt. 1, St. Petersburg, 1842, p. CXXXVI.



THE GREAT DEMIDOV PLATINUM NUGGET, THE LARGEST IN THE WORLD.

Found in the Nizhni-Tagilsk region in 1843. It weighs, according to the Russian standard, 23 funts 48 zolotniks, equivalent to 25 pounds 9.5 ounces troy; 21 pounds avordupois, or 9,024 grams. In January, 1844, there was found at Martirov, where platinum was first discovered in the Urals, a slightly smaller nugget, weighing 20 funts 31 zolotniks (21 pounds 4 ounces troy, 18 pounds 6 ounces avordupois, or 8,335 grams). Dimensions of the Demidov nugget: 7 by 4 by 3 inches.

the Tura, the Veeya, is also rich in platinum. The area of the Tura Valley has furnished, since 1879, the largest part of the Russian output; before this date the Nizhni-Tagilsk deposits, about 130 miles to the southward, were the most productive.¹

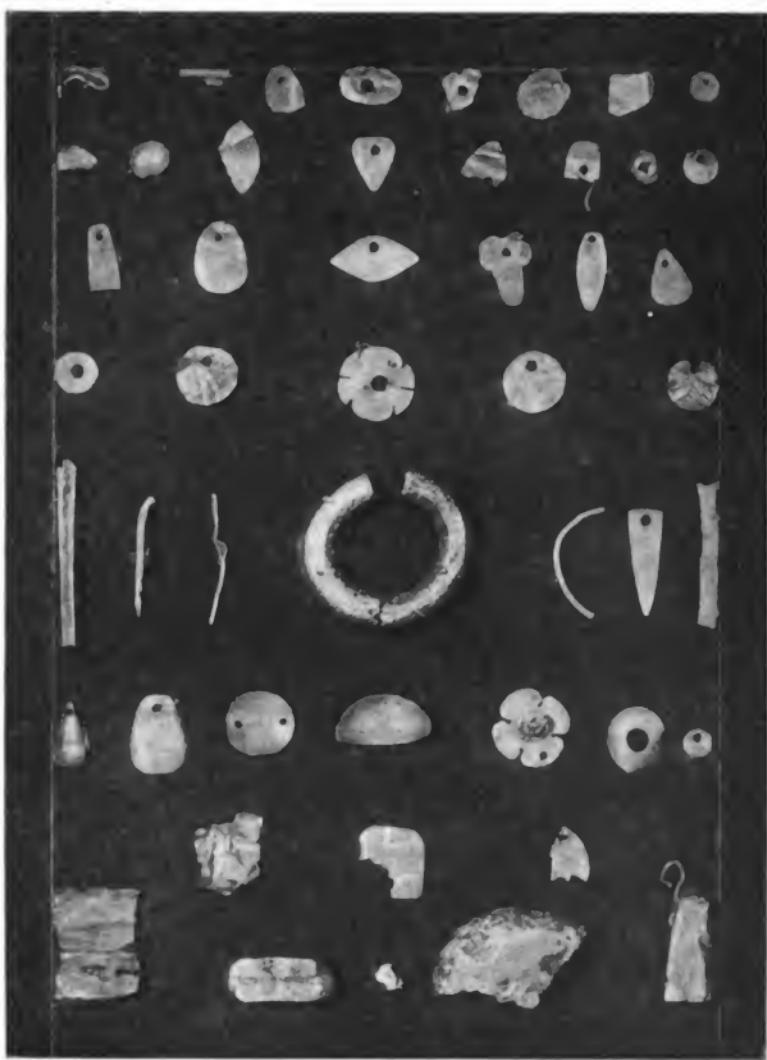
The following table shows the Russian production, amounts exported, and prices of platinum from 1901 to 1914, inclusive, according to the latest definite statistics available:

Year.	Production.				Exports.				Prices.	
	Poods.	Grams.	Troy ounces.	Poods.	Grams.	Troy ounces.	Rubles per pood.	Dollars per kilo.	Dollars per Troy ounce.	
1901.....	389	6,372,236	201,872	136	2,064,006	71,627	14,442	\$151.01	\$14.12	
1902.....	375	6,142,901	197,199	77	1,261,312	50,553	15,62	151.01	14.12	
1903.....	367	6,011,836	193,285	117	1,916,585	61,619	14,170	145.49	13.85	
1904.....	306	5,012,607	161,159	175	2,866,687	92,166	15,629	185.07	15.09	
1905.....	320	5,241,912	168,332	117	1,916,585	61,619	17,435	148.14	17.03	
1906.....	353	5,782,518	185,912	387	6,339,474	203,819	17,630	147.98	17.04	
							34,000	1,068.92	33.25	
							29,560	929.33	28.90	
1907.....	329	5,389,372	173,272	298	4,881,539	156,945	17,664	555.34	17.21	
1908.....	299	4,897,940	157,472	334	5,471,277	165,905	19,581	615.70	19.14	
1909.....	313	5,127,275	164,815	493	8,075,867	259,645	19,791	622.36	19.38	
1910.....	335	5,487,658	176,435	518	8,485,391	272,811	23,400	735.66	22.88	
1911.....	352	5,796,136	185,385	420	6,880,049	221,198	36,365	1,113.28	35.56	
1912.....	337	5,520,420	177,385	422	6,912,811	222,252	37,939	1,192.76	37.10	
1913.....	299	4,807,940	157,472	381	6,241,187	200,658	36,941	1,161.38	36.12	
1914.....	298	4,881,538	156,945	157	2,571,827	82,686	36,864	1,158.96	36.05	

In Canada and in British Columbia there has been a small output of platinum, the most important area being in the valley of Slate Creek and along the Tulameen River, where it is crossed by a great peridotite dike. New South Wales, Australia, the Tayaka River, New Zealand, Borneo, Sumatra, and Burma have furnished trifling amounts. It has been discovered at Cornego de Lagens, Minas Geraes, Brazil; at Aicoupi, French Guiana; near Chocala and Gracias, Honduras, and Xacala, Mexico, and in the River Jaky, San Domingo. In Europe traces have been met with in the French Alps, in Westphalia, in the gold sands of the Rhine, as well as in Transylvania and far-off Finnish Lapland. Finally it appears in regions as far distant from each other as the Congo Free State and Japan.

The presence of platinum in meteorites has been shown in several instances; both platinum and iridium were found by John N. Davidson in meteoric iron from Coahuila, Mexico, and also in a specimen from Toluca, in that country. A quantity of 608.6 grams of the meteoric iron from the first-named locality gave 0.014 gram of platinum and 0.0015 gram of a black powder considered to be iridium. Platinum also appeared in a meteoric iron from New South Wales,

¹ C. W. Purlington, "The platinum deposits of the Tura River system, Ural Mountains, Russia," *Trans. of the Am. Inst. Min. Eng.*, Vol. XXIX (1900), p. 16.



Courtesy of American Museum of National History, New York City.

PREHISTORIC ORNAMENTS OF GOLD AND PLATINUM.

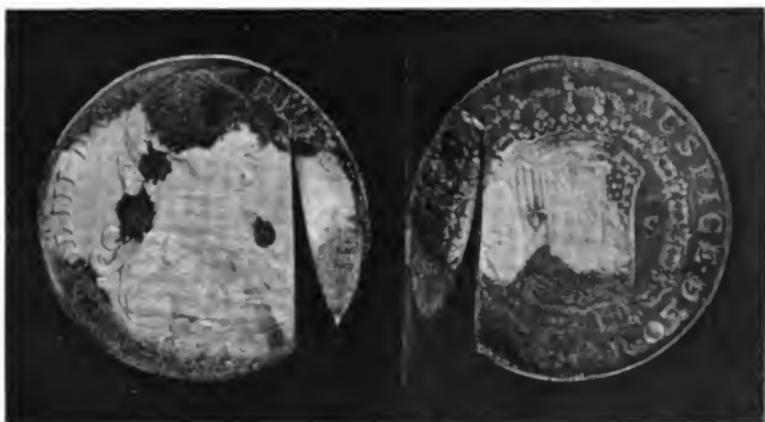
These were found in graves of the aboriginal Indian inhabitants of the island La Tolita, at the mouth of the Santiago River, Ecuador. In most cases a layer of platinum, cut to correspond with a similar one of gold, has been hammered on to the latter, so that one side of the ornament is of gold, the other side of platinum. Occasionally, however, two layers of platinum have been hammered on either side of a central layer of gold.

Australia, according to analysis by J. C. H. Mingaye, of the mines department of New South Wales.¹

In a paper read before the Second Pan American Congress in Washington, D. C., January 3, 1916, Dr. Túlio Ospina, director of the School of Mines at Medellin, Colombia, gave some valuable and interesting details regarding the platinum deposits of Colombia. He estimates the area of the alluvial deposits of gold and platinum at over 5,000 square miles, the region lying west of the central ridge of the Colombian Andes, in the drainage basin of the Atrato and San Juan Rivers, and extending south of the latter to the Mira River, in the direction of the coast line. The stream beds in which platinum occurs are those in which the Tertiary conglomerates have become eroded, the deposits being reconcentrates of the older gravels. The Tertiary conglomerate is formed by rounded boulders of basic rocks, such as diabase melaphyre, peridotite, and dunite. A much larger proportion of platinum to gold is found in gravels of the San Juan River than in those of the Atrato, the two metals occurring in about equal quantity in the former, while in the latter the proportion is about 85 per cent gold to 15 per cent platinum. There are estimated to be 68,000,000 cubic yards of gravel that can be regarded as certainly profitable for working, and there is a reserve total of 336,000,000 cubic yards which may also prove productive. English and American capital control the most productive area. A dredge operated for a time, in July, 1915, on the Condoto River by the Anglo-Colombian Development Co., appears to have shown good results. Other dredges are projected, and some surveying has been done with a view to developing electric power. The United States Geological Survey has learned that there are indications of considerable areas of promising platinum deposits on the Atrato River, from its headwaters to a point well below Bete. Samples of gravels received by the Survey from the neighborhood of Quibdo, while showing considerably more gold than platinum, contain enough of the latter metal to merit interest.

The rejection of platinum as waste in the operation of refining gold led to some strange happenings in Colombia. The platinum separated from the gold by the dry, or "blowing" system was either cast into the street or thrown through cracks in the building where the work was done. Later, when platinum became valuable, a considerable quantity of the metal was thus discovered in Quibdo, capital of the Choco district, where much gold refining was done. As a result the entire town of some 1,500 inhabitants was turned into a mine, and natives were employed in working the streets for the Government, while many property owners mined under their houses. In one case a man went so far as to tear down his store, and was

¹ Mining Industry, Vol. VIII, p. 477, 1899.



COUNTERFEIT DOUBLE DOUBLOON OF CHARLES III OF SPAIN (1759-1788), DATED 1771.
STRUCK IN PLATINUM.

Split and considerably corroded, presumably in the removal of the gilding applied to its surface so as to make the coin appear to be of gold. Diameter, $1\frac{1}{2}$ inches; weight, about 25 grams. The double doubloon (doble onza) was then worth about \$16.50, many times more than the value of the platinum in the counterfeit when it was executed. Now, however, the intrinsic worth of the counterfeit would be about \$84, more than five times the value of the genuine coin.



COUNTERFEIT DOUBLOON OF ISABELLA II OF SPAIN (1833-1868), DATED 1856.

This coin, seven-eighths of an inch in diameter and weighing about 13 grams, was struck of platinum and then gilded to imitate gold. The worth of a genuine gold coin of this type at the time was about \$7.87, while the platinum in it was worth no more than \$1.70. To-day, however, the counterfeit is worth about \$42 or more than five times its weight in gold.

rewarded by recovering enough platinum to rebuild on a larger scale and clear \$4,000 in American gold coin.¹

Colombian platinum was only worth from \$5 to \$6 the Spanish pound in 1810. As this pound was equivalent to 14½ troy ounces, the ruling price would be at the rate of from 34 cents to 41 cents an ounce, or but a fraction over 1 cent a gram. In 1823 the price fell even lower, to from \$3 to \$4 a pound, because the exportation of platinum had been prohibited.²

Exports of platinum from Colombia to the United States for fiscal years ending June 30 (1905-1916).

Year.	Grams.	Troy ounces.	Total value.	Value per gram.	Value per troy ounce.
1905.....	35,457	1,140	\$21,504	.61	\$18.86
1906.....	72,036	2,316	45,763	.63	19.76
1907.....	170,945	5,496	100,206	.59	18.23
1908.....	33,965	1,092	25,576	.75	23.42
1909.....	74,400	2,392	36,440	.49	15.23
1910.....	49,766	1,600	31,383	.63	19.49
1911.....	171,162	5,503	147,820	.86	26.86
1912.....	206,123	6,627	219,128	1.08	33.07
1913.....	325,374	10,461	363,731	1.12	34.77
1914.....	385,279	12,387	398,657	1.03	32.18
1915.....	506,925	16,298	584,245	1.15	35.85
1916.....	770,471	24,774	1,667,805	2.18	67.73

Analyses of four specimens of platinum ore from Oregon, California, Russia, and Colombia, respectively, made by Deville and Debray in 1859, illustrate the varying proportions in which different constituents may be present.³

	Oregon.	California.	Russia.	Colombia.
Platinum.....	51.45	85.50	77.50	76.82
Iridium.....	.40	1.05	1.45	1.18
Rhodium.....	.65	1.00	2.80	1.22
Palladium.....	.15	.60	.85	1.14
Osmium.....			2.30	
Iridosmine.....	37.30	1.10	2.35	7.98
Gold.....	.85	.80		1.22
Iron.....	4.30	6.75	9.60	7.43
Copper.....	2.15	1.40	2.15	.88
Sand.....	3.00	2.95	1.00	2.41
	100.25	101.15	100.00	100.28

A rough estimate of the whole amount of platinum so far produced and still extant in the world might place it at 4,000,000 ounces (124,400 kilos), a quarter of which, or 1,000,000 ounces, is in the United States, besides about 400,000 ounces (12,440 kilos) of the associated platinum metals. Of the various uses to which this plat-

¹ Communicated in a letter, dated Feb. 20, 1917, from William J. Hayes, of Buenaventura, Colombia, South America, to the American Museum of Natural History, New York City.

² Mollien, "Travels in the Republic of Colombia in the year 1822-23," pp. 307, 457.

³ Annales de chimie et de physique, 3d ser., Vol. LVI, p. 449; 1859.



PLATINUM MEDAL OF LOUIS XVIII.

A platinum medal struck at the time of the restoration of the monarchy in France to commemorate the signing of the constitutional charter by Louis XVIII on June 4, 1814. The obverse bears the bust of the king by De Puymarin, after F. Andrien and the inscription "Lvdovicvs. XVIII. Franc. et. Nav. Rex." On the reverse Louis is figured seated on a throne chair and handling the newly signed charter to a standing, helmed female figure, personifying France; the inscription reads: "Fundamenta libertatis publicae charta constitutioonis. A. rego. tradita. IV. IUNI. MDCCCXIV." The reverse is by J. J. Jaley. The diameter of the medal is 51 mm., and its weight is 151.50 grams., 4.87 ounces, giving it an intrinsic value of \$511.35, at the present price of platinum.



Courtesy of Tiffany & Co.

BROOCHES OF PERFORATED PLATINUM.

Brooches of perforated platinum. This shows how little of the metal is used in the finest jewelry. The openwork is more delicate than lace.

inum has been put, the following may be regarded as an approximately correct statement:

	Ounces.
For catalyzing.....	400,000
Dental purposes.....	1,000,000
Chemical apparatus, etc.....	1,000,000
Electrical devices.....	500,000
Jewelry.....	500,000

Of the total amount of platinum utilized in the world, about 400,000 ounces have found employment in catalyzing processes, distributed in the different countries about as follows:

	Ounces.
United States.....	200,000
England.....	100,000
Germany.....	70,000
France.....	30,000
	400,000

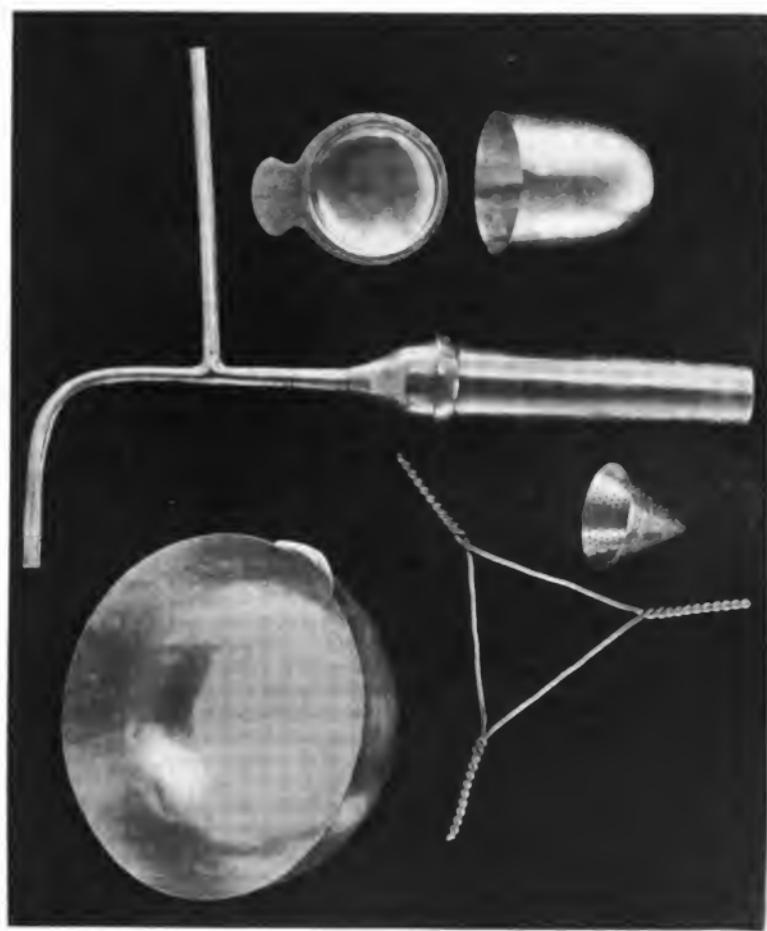
The largest uses have been for dental purposes, about 1,000,000 ounces; and probably another 1,000,000 ounces for chemical and physical equipment, while for electrical apparatus some 500,000 ounces have been required. The net amount worked up into jewelry does not probably exceed 500,000 ounces, although the total sales may have reached 1,000,000 ounces, but from two-thirds to three-quarters of this amount is returned to the refiners and then again used ornamentally.

This would give us in all something less than 4,000,000 ounces as the amount of the metal now worked up and utilized in one form or another.

One is apt to think of platinum only as sold by gram or ounce, and not in relation to its value per carat. But at \$105 per ounce, platinum is worth 67.6 cents per carat; iridium at \$160 per ounce is worth \$1.029 per carat; and as the specific gravity of platinum is 21.50 and that of iridium 22.40, this means that platinum weighs 6.11 times more than the diamond, 5.35 times more than the ruby, 7.96 times more than the emerald, and 8.27 times more than the amethyst.

Iridium weighs 6.36 times more than the diamond, 5.57 times more than the ruby, 8.30 times more than the emerald, and 8.62 times more than the amethyst.

Therefore, a piece of platinum the size of a 1 carat diamond would be worth \$4.12, the size of a 1 carat ruby would be worth \$3.62, the size of a 1 carat emerald would be wothg \$5.38, the size of a 1 carat amethyst would be worth \$5.59; and a piece of iridium the size of a 1 carat diamond would be worth \$6.54, the size of a 1 carat ruby would be worth \$5.73, the size of a 1 carat emerald would be worth \$8.54, the size of a 1 carat amethyst would be worth \$8.87.



PLATINUM UTENSILS.

Dish for boiling acids. Sieve. Rack for holding vessel. Platinum still, for use in distillation. Crucible.

A cubic centimeter (0.061 cubic inch) of platinum is worth as follows in comparison with the following other metals:

Metal.	A cubic centimeter weighs—		Value.
	In grams.	In grains.	
Platinum.....	21.5	331.79	\$72.00
Iridium.....	22.4	345.68	115.25
Palladium.....	11.4	175.93	42.16
Gold.....	19.3	297.83	12.83
Silver.....	10.5	162.04	.295
Bismuth.....	9.8	151.24	.0706
Mercury (quicksilver).....	13.596	209.82	.0449
Cadmium.....	8.64	133.34	.0335
Tungsten.....	19.1	294.76	.03266
Cobalt.....	8.6	132.72	.0323
Nickel.....	8.9	137.35	.0108
Tin.....	7.3	112.65	.01
Copper.....	8.9	137.35	.0046
Aluminum.....	2.58	39.82	.0032
Antimony.....	6.62	102.16	.0022
Zinc.....	7.12	109.88	.00193
Lead.....	11.37	175.47	.0015
Iron.....	7.86	121.30	.000276
Water.....	1.0	15.432	

The method of refining platinum employed in the United States assay is described as follows:¹ In the electrolytic process of refining gold, platinum remains in solution in the gold chloride electrolyte, from which it is precipitated by means of ammonium chloride. The precipitate is then well washed and reduced at a red heat to a metallic platinum sponge. This naturally contains impurities, and is therefore redissolved in aqua regia, and evaporated almost to dryness, so as to expel the nitric acid, sulphur dioxide being then passed through it until all the gold is precipitated. Upon this it is oxidized to bring all the platinum into a platinic state and precipitated with pure ammonium chloride. The precipitate is then reduced in the usual way to metallic platinum sponge.

The marvelous ductility of platinum may be better conceived when we consider that out of a single troy ounce of the metal it would be possible to make an almost infinitely slender wire that would reach from Santiago, Chile, across the continent to Rio de Janeiro, a distance of about 1,800 miles. To draw out platinum into so exceedingly fine a wire it is covered with a thin layer of gold. This new wire is drawn to the thinness of the former one, and the gold is dissolved away. A small section of this second wire is then given a coating of gold, redrawn, and the gold covering dissolved. After this process has been several times repeated the wire, finally secured, is still intact but virtually invisible.

¹ From letter of Hon. Verne M. Bovie, superintendent of the U. S. assay office at New York, to the writer, dated June 6, 1917.

THE TOWN OF BARACOA AND THE EASTERN PART OF CUBA¹

THE historic town of Baracoa may be said to be the western outpost of the Maisi district of Cuba. In an extremely isolated position, Baracoa can only be reached from other parts of the Republic by water communication. The nearest railroad terminal on the north coast is Antilla (Nipe Bay), and from here one is forced to take one of the coastal steamers of the Empresa Naviera de Cuba in order to get to one's destination. The trip to Baracoa can also be made from the south coast by embarking at either Santiago de Cuba or Caimanera on the return voyage of the coastal steamer.

Baracoa is the oldest existing settlement in Cuba, and it was in 1512, two years before the first building was erected in Santiago de Cuba, that the *conquistadores* laid out the plans for the present town. That Columbus visited the harbor of Baracoa when he coasted the northern shore of Cuba on his first voyage is almost certain, and the admiral undoubtedly observed the prominent table mountain, *El Yunque* (the anvil), which dominates the harbor and can be seen for miles. It is claimed, in fact, that it was Columbus himself who named this peak *El Yunque* from its strong resemblance to an anvil, but this is more a matter of local legend than of accurate historical record. Rising to a height of over 1,800 feet, the "Anvil" is easily visible for 30 or more miles and forms an excellent landmark for mariners approaching this part of the Cuban coast. Zoologically, *El Yunque* offers one of the best fields in Cuba and one which has remained practically unexplored; since the days of the noted Cuban naturalist Gundlach, who explored the summit in 1859, we do not believe that this peak has been investigated.

The town of Baracoa itself is situated on the shores of one of the most picturesque bays in Cuba. While the harbor offers a safe shelter to vessels during the greater part of the year, it is exposed to north-easterly gales and in consequence has a bad reputation with masters of sailing vessels. No tugboat being available, craft which have to depend on sails alone have considerable difficulty in leaving the harbor owing to its narrow mouth, and with strong northeasterly winds their departure becomes an impossibility. Baracoa has a

¹By Theodoor de Booy.



SCENES IN EASTERN CUBA.

Upper: A ferry over the Yumuri, one of the smaller rivers in the extreme eastern part of the Republic. Center: A general view of Baracoa. Lower: Coffee cultivation, an industry that is growing in importance. The scene represents a phase of the drying process.

population of about 6,000 people, and judging from the stately buildings which can still be found must undoubtedly have lost a great deal of its former importance.

A direct line of small fruit steamers connects Baracoa and the neighboring coastal banana depots with New York. Several banana plantations are found between Baracoa and Cape Maisi on the north coast, and a not inconsiderable amount of fruit is exported. Of late years, however, due to various causes, the fruit trade has fallen off and the plantations do not seem to be as productive as formerly. Perhaps the most important industry of Baracoa itself is a coconut-oil factory where the coconuts from the neighboring plantations are crushed in order to extract the oil from the kernels. This valuable product serves as a base for the better kind of soaps and has a ready market in the United States. In addition to this, the coconut meal, i. e., the residue after the oil has been expressed from the kernels of the nuts, is a valuable by-product and is used in Baracoa for the fattening of hogs.

Another export of Baracoa consists of wax gathered from the wild bees that have built hives in the uncleared parts of the country. These hives are located by professional wax hunters, who scale seemingly impossible rocks to secure their prize. Not infrequently the bees build their storehouses in the entrances of the limestone caves with which the countryside abounds, and in consequence visiting archeologists to this region may do well to remember that wax hunters will often be able to tell of caves which are unknown to the other inhabitants. In many of these caves one is likely to find aboriginal remains and artifacts of great archeological value.

The first village of importance to the eastward of Baracoa is Mata. This is a calling station for the banana steamers coming to Baracoa, and from here large quantities of this fruit, gathered from the surrounding country, are exported. Mata itself is but a small village of perhaps 30 houses; its harbor is too shallow to allow steamers to anchor and in consequence the bananas are carried off in lighters to the collecting steamer which lies some distance offshore. From Mata to the mouth of the Yumuri River the road follows the beach more or less, whereas the road from Baracoa to Mata allows no view of the sea. While in places progress is somewhat impeded by the heavy sand, the road from Mata to the Yumuri ferry makes up in beauty what it lacks in convenience.

The Yumuri River—and it should be noted that Cuba boasts of two Yumuri rivers, the other one being found near Matanzas in the center of the island—has a width of about 200 yards at the mouth with, in all seasons excepting the rainy season, a depth of not over 3 feet. This lack of depth is due to sand banks which form in the mouth of the river thanks to the heavy swell which deposits large



Photograph by Hamilton M. Wright.

TWO FEATURES OF TRADE AND TRAFFIC IN ORIENTE PROVINCE.

Upper: A glimpse of the picturesque region traversed by the railroad in reaching the Nipe Bay outlet, northeast Cuba. Lower: Preston, situated on Nipe Bay, opposite the port of Antilla. Beyond the houses may be seen the broad expanse of this great bay, so important in the trade of eastern Cuba.

quantities of coraline sand. Some short distance from the mouth can be found a large ferry which carries the traveler and his horse to the other shore. There being no carriage roads between Baracoa and Maisi, there is of course no necessity for a bridge or for a ferry large enough to transport vehicles.

To all who have traveled in the West Indies, the mouth of the Yumuri River must forever linger in their memory as perhaps the most picturesque spot visited. With towering banks on either side, the Yumuri wends its peaceful course toward the sea, protected as it were by the deep cañon it has cut for itself during untold centuries. The very walls of this cañon are covered with verdure, with here and there a snow-white spot of limestone to show the underlying foundation and to relieve the green monotony. It is possible to follow the Yumuri for a considerable distance from its mouth by canoe, as its depth increases once the sand banks at the entrance of the river are passed.

The ferry once crossed, the path ascends the table-land in a dizzy zigzag which at times puts a great fear into the traveler's heart, especially so if his horse should happen to be stumble-footed. The table-land is fully 300 feet above the level of the sea and stretches from the banks of the Yumuri east to the shores of Cape Maisi. It is bounded north and south by the sea, and while the writer wishes to impose no fanciful geological theory upon his readers, the plateau has to him every appearance of having been caused by a series of successive submarine upheavals. This theory is all the more feasible when one examines the shores of Cape Maisi, where three distinct graduated steps bear evidence, by the sea-worn caves that can be seen in each successive step, of the various water levels. Furthermore, the entire table-land is of a coraline limestone formation, and it is more likely to suppose that this land was elevated by an upheaval than that it was at one time submerged when the level of the sea had a greater height.

The summit of the table-land once reached, one is close to the small village of Sabana Grande, sometimes known as Sabana Vieja. This village consists of about 12 houses, a *fonda y posada* (a hotel of the smaller sort), and a jail, and makes no pretense to being a metropolis. It is a useful place to the traveler, however, as it is here that he can hire fresh horses for the continuance of his journey and has the opportunity to obtain a meal or to spend the night. Perhaps the first thing that will strike the newcomer are the cool nights on this plateau. When Baracoa and the rest of the Cuban Republic are smothering under the heat of a tropical sun, this table-land is invariably cool, and the nights are such that a blanket not only is a comfort but an actual necessity. The cold winds coming from the Atlantic through the Windward Passage between Cuba and Haiti are responsible for this

Photograph by Harris Bros., Havana, Cuba.

THE BANKS OF THE MAYARI RIVER.

The Mayari River flows into Nipe Bay, after meandering northward from its source in the mountains of the eastern tip of Cuba. Along its banks are some of the oldest tobacco plantations of the Republic, and although displaced in popular favor by the more celebrated crop of the Vuelta Abajo in the western part of the island, the Mayari tobacco still has a steady market abroad.



phenomenon and are also responsible for the destructive storms which occasionally visit this region.

The entire tableland consists of a coraline limestone formation covered with the typical red clay resulting from the decomposing rock. The land, while of course very rocky, is ideally suited for the cultivation of bananas and coffee, and the agriculture of these parts consists almost solely of these two commodities. A limited number of horses and cattle are also raised throughout this region and the horses rank among the best that can be found in Cuba. At certain times of the year the roads and woods are fairly covered with the ripe guava fruit, so much so, in fact, that the odor of the decomposing fruit becomes offensive. Alligator pears also cease to be a luxury in a land where every tenth tree in the woods bears this fruit and where one has to be careful, when the pears are in season, not to slip on the ripe pears which are scattered underfoot. It will be seen, therefore, that the Maisi district has rich resources and is but awaiting the building of roads and the establishing of a small coastal steamer service to repay whoever goes into the exploitation of this land on an extensive scale.

From Sabana Grande to the east, the tableland of Maisi is known as *La Gran Tierra de Maya* (the great land of Maya), thusly named after the Maya River which finds its source here. It is here that extensive plantations are found, where coffee and bananas are raised, and it is here that in aboriginal times the Indians must have had their favorite abode. The Maya River is generally marked on maps as the Maisi River, but is locally only known by the former name. It is only visible in the rainy season, and the natives claim that in the dry season it runs underground through a series of caves and empties itself in the sea at some distance offshore. While there are in the West Indies several instances of underground rivers in the coraline lime formation and also quite a few fresh-water springs which bubble to the surface in the sea itself, the writer is of the opinion that in this particular instance the Maya or Maisi River disappears because there is no water in it and not because the water wends its way in subterranean channels towards the sea. The bed of the river forms part of the road from Sabana to Maisi in the dry season and in the rainy season offers serious obstacles to the progress of the traveler.

The inhabitants of the *Gran Tierra de Maya* live in a manner which can only be compared to that of the patriarchs of old. Each finca (farm) is self-supporting, and it is but seldom that the proprietor seeks the busier marts of Baracoa. Where a lavish nature provides palms, which supply not only wood for the house but also roof covering, food, and clothing, and calabash-trees, which go far toward filling a want for kitchen utensils; where guinea grass grows like weeds and furnishes a never-failing supply of fodder for cattle and horses;



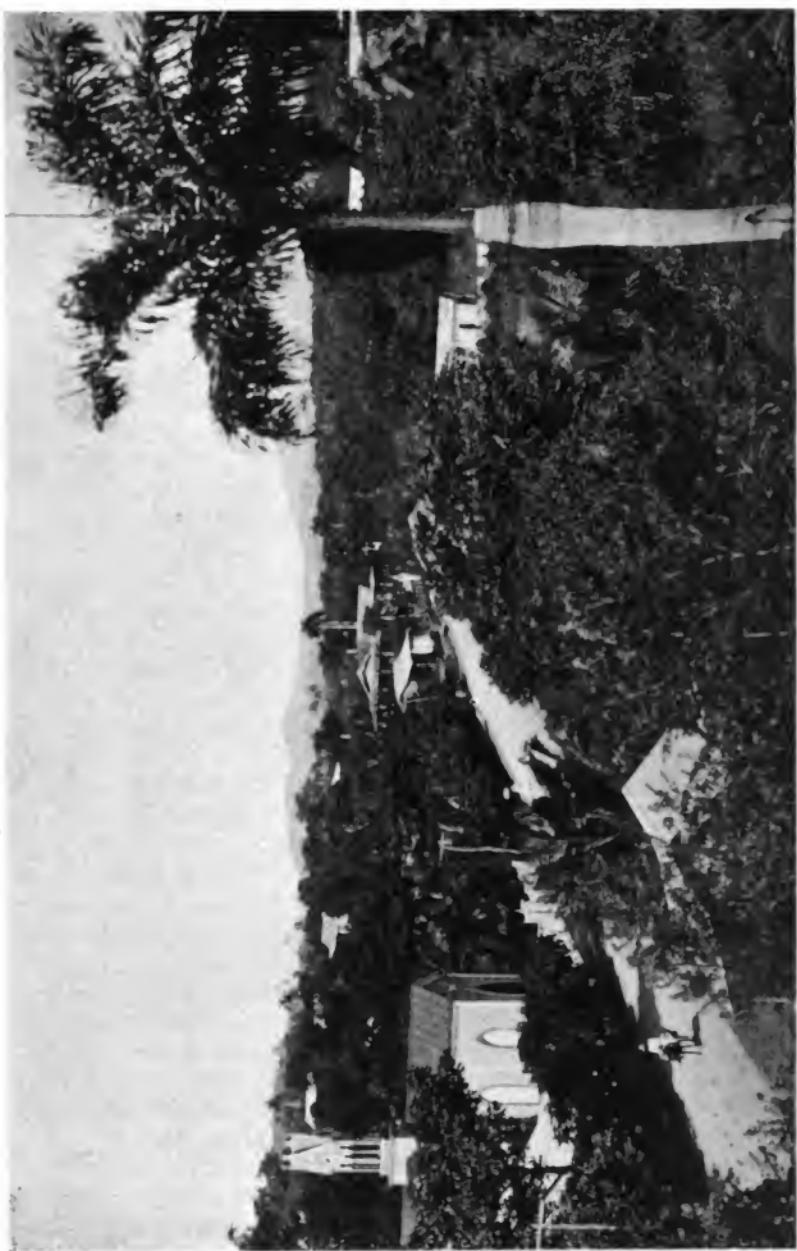
THE DOCKS AT DAQUIRI, THE NORTHERN TERMINUS OF THE CUBA RAILROAD.

where fruits are found in wild lavishness and the smallest cultivated patch will sustain a large family and where, lastly, a half acre of coffee bushes will keep a Cuban supplied with enough pocket money to have funds to lose on the outcome of a cockfight—the favorite outdoor sport of Cuba in general and of this region in particular—it is no wonder that the inhabitant of the Gran Tierra de Maya does not wander far from his native heath. The only wonder is that the land is so sparsely settled, where it could sustain so many people.

In pre-Columbian days there is no doubt but that this plateau was the abode of a large tribe of aborigines. Thanks to the researches of Dr. Montane of the University of Havana, who was the first scientist to point out the importance of the archeology of this region, of Mr. M. B. Harrington, of the Museum of the American Indian-Heye Foundation of New York City, who made a systematic survey of the caves and the kitchen-middens of Jauco and Maisi, after a preliminary survey by the writer in 1914, a great deal more is known of the arts and crafts of the Cuban Indian than formerly. Caves abound near Cape Maisi and on the south coast between Maisi, and Jauco, where the Indians placed their dead and left artifacts to bear mute testimony of their advancement in the crafts; large deposits, known as kitchen-middens, which in reality are nothing but refuse heaps where the Indian threw his empty shells, broken implements, pottery, etc., testify to the extent of the pre-Columbian occupation. It would be impossible to estimate the number of aboriginal inhabitants; that it was larger than the present-day population is certain. Of these Indians, no pure-blooded specimen remains to-day.

Nevertheless, while the aborigine is no more, his influence can be extensively seen throughout the Gran Tierra de Maya. The very shacks of the poorer class of natives are fashioned in a manner recalling the drawings of Indian houses in the early Spanish historians. Many of the words used have an Indian origin. Their sandals are pleated after the Indian fashion, and the dress of their children at times resembles the Indian simplicity.

As has been stated, the tableland terminates in three distinct terraces near Cape Maisi. From the summit, the mountain ranges of the Island of Haiti can distinctly be seen and recall to one's mind the ill-fated Indian cacique Hatuey who ruled not only over part of Haiti but over the eastern part of Cuba as well. Pre-Columbian canoe navigation must have been extensively carried on and the pottery and other aboriginal specimens from eastern Cuba resemble greatly the artifacts from the western part of Haiti. As the written records of the early Spanish settlers and discoverers are vague and frequently inaccurate, it will be understood what importance is



Courtesy of Royal Mail Steam Packet Co.

A PICTURESQUE SCENE IN A MODERN SETTLEMENT IN THE NIPE BAY DISTRICT.

attached to the archeological investigations that have been carried on.

Beside Sabana Grande, the even smaller village of Monte Christi or Guiniao is found on the plateau of the Gran Tierra de Maya. This village is only about half the size of Sabana and is no more than a collection of native shacks. Many of the larger fincas have a larger number of laborers and other dependents than Monte Christi and the only reason for the existence of this settlement is that it serves as a sort of half-way house between Sabana and Jauco on the south coast. One passes Monte Christi and shortly afterwards comes to the edge of the tableland again. The dried-up bed of the Galeta River serves as a descent in order to reach the sea level and to follow the beach to Jauco. This descent is even more precipitous than the descent near the Yumuri River and the road at times becomes almost lost in the mass of stones which forms the river bed. Here again is a treasure-land for the zoologist and more particularly for the conchologist, as this is the home of the wonderful *Helix (Polymita) picta*, "of which land snail nearly 1,000 color variations are known, each vying with its neighbor in beauty." One reaches Jauco, a settlement of greater importance than Sabana, Maisi, or Yumuri, and a port of call for some of the large coastal schooners sailing from Santiago de Cuba. Inhabited mostly by fishermen, Jauco nevertheless exports a considerable amount of the produce from the table land above. The Jauco River waters the large pasturages directly under the plateau and is responsible for the luxuriant herbage upon which the cattle exist.

It is between Jauco and Cape Maisi to the east that the larger number of caves are found. The investigator will be forced to examine these afoot, as no road or bridle path makes horseback travel possible. And as this trip will undoubtedly be lengthy, the traveler is advised to have his kit follow him in a boat from one stopping place to the other. The steep terraces, resembling nothing so much as Cyclopean stairs, seem literally to be honey-combed with cave entrances. Everyone of these has to be examined, as the Indians not only seem to have used the larger caves as shelters or as places of worship, but also were in the habit of depositing the bones of their dead in the smaller caverns. It is, of course, understood, that Indian remains are not found in every one of the caves--in fact, one only finds proof of an Indian occupancy in something like six per cent of the caves explored. But when proofs *are* found, the artifacts are always so much better preserved than when they are encountered in the ground, that the 6 per cent fully make up for the 94 per cent of the caves in which one finds nothing.

Following the coast in this manner, one finally reaches the massively built lighthouse of Cape Maisi. The busy Windward Passage opens up to view and a steady stream of fruit and cargo steamers pass both



A PORTION OF PICTURESQUE NIPE BAY, CUBA.

This picture was made as a tropical storm was about to break over the region. Such storms frequently last only a short time, but the display of lightning and the downpour of rain astonish the stranger.

south to Jamaican and Central American destinations with products of northern manufacture and north to American ports laden with the fruits of the tropics. It is customary for mariners to take Cape Maisi as a "departuro" and the traffic in consequence stands quite close inshore, as most travelers who have made a trip to either Jamaica or Panama can testify. Maisi itself is another small settlement, consisting principally of two lighthouse keepers and their families and a number of fishermen whose catch mostly consists of the hawksbill or tortoise shell turtle which abounds in these waters.

Passing the settlement of Maisi and the dry mouth of the Maya or Maisi River, there are but few huts or settlements on the north coast between Maisi and the mouth of the Yumuri. A few fishermen have a small settlement at Baga and live in a manner bordering on destitution. The coast here below the tableland is somewhat swampy and unhealthy.

A road leads from Cape Maisi to the Gran Tierra de Maya above and leads through the wildest part of the entire wild region. The lands on either side of this road are virgin forest, plentifully sprinkled with valuable hardwoods, and would amply repay development. No squatter has seen fit to raise even a temporary shack, and the forests are only visited by the hunters of wild pigs and beeswax. But parts of the Cuban Republic are fast building up, and it is quite likely that the existing conditions in the extreme eastern part of Cuba may soon change when capitalists inform themselves of the riches that are awaiting development in this hitherto neglected portion of the Republic.



ADDRESSES BEFORE THE SOUTHERN COMMERCIAL CONGRESS IN NEW YORK

THE Ninth Annual Convention of the Southern Commercial Congress, which was held in New York October 15-17, 1917, was a pronounced success both in attendance and in the amount of work accomplished. Among other features of the convention were the notable addresses delivered by a number of distinguished guests. Of these the BULLETIN has been furnished with the text of two, both of which deal with the growing spirit of Pan Americanism and are therefore reproduced herewith.

Minister Calderon, of Bolivia, well known throughout the United States for his thoughtful and scholarly addresses, spoke in part, as follows:

Mr. Chairman of the Southern Commercial Congress, Ladies and Gentlemen: In October of 1913 I had the honor of addressing this congress, when we in America, and the whole world with us, celebrated the completion of that gigantic work, the Panama Canal. By cutting asunder the Isthmus that separated the two great oceans the United States opened a new and shorter route of universal intercourse. The republics of North and South America became closer neighbors and anticipated with joy an era of more friendly and increasing relations. We all felt that mankind had made a big advance in the common endeavor to forge ahead in the onward march of progress, based on right, justice, and peace, the great fundamental principles of civilization. We saw in inspiring vision the development and growth of fellowship amongst all countries, linked by love, which is the eternal and all pervading force and the essence of life.

The world grows smaller as nations get in constant and almost uninterrupted touch with each other. Men and women travel in comfort and ease. Cable, wireless, and telephone messages reach them from home with marvelous rapidity to the farthest points. The interest in all human events has been quickened with the growth of quick transportation, instantaneous communication, and the development of international commerce and industry.

We have consecrated this Western Hemisphere to democracy, which means that all men have the same rights and duties; that the welfare of the community is based on the welfare of its individual members; that the people have the right to govern themselves, and that the fountain of all authority is the people itself. We in America are all inspired by the same ideals, and the greatest contribution to the advancement and happiness of men is the establishment of democracy in this continent. God has put man on earth and filled his soul with lofty aspirations, to be the master and not the abject tool of the self-appointed lords of autocracy, who claim their will as the supreme law.

The largest portion of the territory of the United States has never known any other authority but that of the people. The scattered savage Indian tribes that roamed at

will all had their own freely elected chief, and when the white settlers came here seeking for freedom, they from the start consecrated the majestic forests, the fertile lands, and the great rivers of this new world to be the home of free and independent men. The English colonies grew in the same spirit; and when an ill-advised king infringed on their rights they revolted, fought, and conquered independence. The United States has one uninterrupted tradition of freedom, and through it, has prospered and become the foremost power in the world. We in South America have been less fortunate. Three centuries of kingly despotism crushed the spirit of the peoples and made them the servile subjects of its authority. We had to fight for fifteen years to free ourselves and become independent, and then had the hard task of adjusting ourselves to a life of freedom under democratic institutions. The period of apprenticeship was painful, but we have at last entered into the orderly way of progress and are growing in strength as free and independent nations. Pan-Americanism is not an empty word; it is the expression of very vital aspirations. It means and has the force and power of the combined determination of all the Republics of America to maintain inviolate the democratic form of government, to preserve peace, and to respect the independence and sovereignty of all of them. The United States has given explicit sanction to those aspirations when President Wilson declared in his historic address at Mobile that this country would never take an inch of territory of any other republic. Public opinion here grows more and more convinced that the wonderful development-wealth, and financial power of this country could never have given to it before the world the influence and ascendancy that it has acquired, if back of that material strength were wanting the moral prestige for its policy of justice, of fair dealing, and of practical respect for the rights of other nations, which makes the United States a true exponent of democracy.

At the time of the opening of the Panama Canal it seemed as if peace could not be interrupted. Not only new ways of easy and rapid intercourse all over the world were opened, but man invaded the realm of the birds and extended his dominion to the air. In the midst of all this progress toward the union of the family of nations, suddenly burst out, like a devastating tempest, the most appalling war of all times. The Hohenzollern and the Hapsburg are in Europe the last representatives of autocracy, who can not and never could understand, that civilization has canceled the medieval assumption of the divine power of kings. They remain true to their traditions of military and arbitrary rule and are the natural enemies of freedom and democracy. It is the most remarkable fact that a nation that has attained the highest degree of scientific, industrial, and commercial development has been misled to believe that the world belongs to the strongest and that might and military rule are superior to justice and right. After years of careful and most complete preparations the Prussian Kaiser has started the present war simply because he thought the time ripe to crush the nations that represent right and democratic ideals. The issue of this bloody and savage fight is then very plain and clearly defined. From the moment that international treaties were declared scraps of paper and necessity the supreme law; to the time that the commerce of the world was barred from the seas and merchant ships of all nationalities sunk, there is no possible compromise. Liberty and democracy will dominate or might and military rule will take its place.

The United States after patiently hoping to avoid a clash and save the world further misery, has at last been compelled to enter into this fight for the defense of the principles upon which are based all its history, its greatness, and its very existence as a free nation.

The hour has arrived when every democratic country of this continent must in the name of Pan American solidarity take its place alongside of the United States as the defender of right and democracy. Bolivia, my country, so understood its duty. When the German Government notified my Government of the unrestricted sub-

marine war it answered promptly that even if Bolivia had no ships, its international trade was vital to the country, and it could not acquiesce in a policy so contrary to every principle of law and humanity, and therefore declared that her policy was to stand in this crisis solidly with the United States, who in this emergency was the champion of democracy and of the rights of all the American Republics. Bolivia knew well when she broke relations with Germany that it was not a question of entering actively in the war, but that the moral and unqualified support of every nation conscious of its duties as a member of the community of republican and sovereign nations was as necessary and important and that she could not stand aside when might and autocracy threatened the very existence of democracy. Should the time come for Bolivia to contribute actively, she would most certainly and willingly give her quota of men, who would know how to give a good account of themselves and be a credit to their country.

In 1913 the United States gave the world the Panama Canal as a peace offering; to-day she has drawn the sword for democracy and the preservation in the world of justice and right. God grant that the day of the final crushing out of militarism and autocratic power may soon light distract humanity, and the glorious cause of liberty embodied in the flag of the Stars and Stripes, once more in peace and good will, be the emblem of union of all the Republics of America, forever free and independent.

Director General Barrett spoke on the subject of "The War and the New Pan America," as follows:

The end of the war will be the beginning of a new era for Pan America and Pan Americanism. After the war will come a new America, which will mean a new "All America," or Pan America, and a new Pan Americanism. In the crucible of this mighty struggle are being burned out the old animosity, the old distrust between North and South America. The purified residue will be a new mutual confidence, a new good will, and a new cooperation for the common good. Pan American comity and commerce, Pan American travel and trade, Pan American intercourse and intimacy will then have a new inspiration and a new force.

When the war is concluded we will realize that it has done more than any other international influence since the declaration of the Monroe doctrine in 1823 to develop ideal and permanent Pan American solidarity; that it has accomplished more than all the diplomatic notes of a century to make the Monroe doctrine an unquestioned principle in the relationship of nations. After the war the Monroe doctrine must and will become a great Pan American doctrine. Then it will belong to, and be espoused by, every other American Government from Canada, Cuba, and Mexico south to Argentina, Uruguay, and Chile, as much as by the United States. Then, being Pan American and supported by every American Government, it will be forever accepted and respected by the rest of the world; and, in its essence, become a world doctrine standing for the integrity, independence, and self-government of every nation, great and small.

Victory for the United States and the allies will remove for all time the only international menace to the Monroe Doctrine. The new Pan America and new Pan Americanism which will follow the war will also be so powerful in their own inherent strength and backing that never again can a new menace from the old world assert itself.

No other nation of America can honestly and logically even intimate that the United States has entered this world struggle for any selfish purpose of territorial aggrandizement or for the slightest advantage over its sister American Republics. No matter what doubts and discussions there may be concerning acts and wars of the past, there can be only one opinion throughout Pan America concerning the attitude of the

United States in its present course. Every man, woman, and child from northern Canada to southern Chile knows absolutely in his heart that the United States is fighting for causes and principles just as dear to every South and Central American Government, people and person as they are to the Government, people, and persons of the United States.

Every thoughtful statesman and commoner in every American nation must admit that victory for the enemies of the United States would mean the conquest and subjugation directly or indirectly not only of the United States but of the other countries of this hemisphere. It is, therefore, sublimely gratifying that the sober public sentiment of practically all the twenty Latin American Republics—eighty millions of people—is overwhelmingly pro-United States and pro-Ally in this struggle of democracy against autocracy. It would seem, in consequence, to be only a question of time when all the Latin American countries must follow the dictates and demands of this public sentiment and align themselves with the United States and the Allies. Otherwise, they may find themselves delaying and possibly preventing the triumph and supremacy of the basic principles which inspired them to fight for their independence and upon which they wrote their constitutions and constructed their nationalities.

There should be no hasty criticism of Argentina, of Chile, of Venezuela, of Colombia, of Ecuador, or of any other Latin American Government which may have not yet taken a decisive position in the present conflict. We must trust that each Government is acting honestly and refuse to admit that influence and propaganda are holding these Governments back in their final decision, just as we must decline to admit that such influence and propaganda kept the Government of the United States for nearly three years, in the face of unspeakable irritation, from taking the final step.

On the other hand, let not any part of Pan America blind itself and refuse to read the handwriting on the wall, which tells us that there is surely, even if slowly, rising an overpowering flood tide of public sympathy with the purposes, ideals, and inspirations of the United States in this terrific fight of immortal right against mortal evil in the relations of nations. This flood, if the war continues another year, must inevitably sweep over all Latin America from the Rio Grande to the Strait of Magellan, making even benevolent neutrality impossible.

Then, when the sun shall shine on that happy day, all America—Pan America—shall, so to speak, form a choir of nations and peoples and chant in perfect unison a new hymn of Pan Americanism, a new anthem of Pan American cooperation and good will, confidence and commerce, progress and peace, which will be taken up by all the nations and peoples of the world and will herald the coming of the day when there shall begin everlasting peace and good will among all men and all peoples throughout all time.



LUNCHEON IN HONOR OF CUBAN MINISTER :: ::

ON October 24, 1917, the Fifth Avenue Association of New York gave the first of its winter luncheons at the Biltmore Hotel. The guest of honor and principal speaker was Dr. Carlos Manuel de Cespedes, Minister of Cuba to the United States, the luncheon having been designated as a recognition of Cuba as an ally in the present war.

His honor John Purroy Mitchel, mayor of New York, welcomed the guest of honor in one of his happy speeches, in which he alluded to the father of Dr. Cespedes as one of the great leaders of the Cuban struggle for independence in 1868, and whose patriotic devotion and noble services to his country were the choicest heritage of the distinguished son, guest of honor of the present occasion, whose great services to his country in the diplomatic field had proved him to be a "worthy son of a worthy sire." Dr. de Cespedes, moved by the inspiration of the occasion, replied in an eloquent and stirring address that brought great waves of applause, a few extracts from which are herewith reproduced. After gracefully expressing his appreciation of the great compliment paid him and through him to his beloved country, the minister continued:

Need I assure you of the deep appreciation of the Cuban people for this spontaneous and princely recognition of the act that placed the Republic in line with the United States on the side of liberty and democracy in the greatest war of all time?

May I confess, without pretended modesty, how I feel on this occasion, not so much for what you thought of me when you asked me to become your guest of honor, but rather for what you think of my country and the attitude of my countrymen? Yet how could they have decided otherwise without dark treason to the glorious past and utter blindness to the perils of the future?

I would have felt sad indeed if at the hour in which the fate of liberty is at stake, Cuba, who became a free and independent nation by the triumph of the same principles and ideals for which we now fight, should have sought to barter with a monstrous declaration of neutrality her untainted birthright to freedom, for the humiliating benevolence of Prussian autocracy; should she have eluded the trials of patriotic sacrifice and the hardships of her duty to mankind, when her natural ally, the author of her present safety, nay, the very champion of her cause when she faced alone and unaided the greatest armies that ever crossed the Atlantic, to maintain the right of a European sovereign over her small but tried people, stood in the arena of the old controversy, and, with the eloquence of her grand example, called to arms the liberal nations of the New World that they might share in the glory of the marvellous crusade and in the grateful remembrance of the future generations.

What would such a neutrality avail against the devastators of Belgium, the conquerors of Serbia and Roumania, the enslavers of little Montenegro? Will it avail any nation, no matter how strong or weak, if the United States should fail in an hour of universal misfortune, and the torch of liberty should fall from the hands that raised

it in the sky? In the present momentous day of your national history, as also in the history of the world, I hesitate to proclaim when the United States appeared as greater and more worthy of universal admiration. Was it when they grasped the implements of labor to open up to international commerce the famous route that had been the dream of preceding centuries, or when they drew the sword and offered the wealth of the Nation to make the world safe for democracy?

If there is anything more impressive than the United States at peace, working out its lofty destinies with a keen sense of the joys of life in the pursuit of happiness and civilization, it is certainly the United States at war for the safety of humanity. Reconciliating itself with the ideals of the fathers, the Nation has now set about its formidable task in grim earnest. As the days pass by, the evidence is made tangible that the power that is being developed to bring the enemy to terms will be something by far more decisive than was ever anticipated by the most patriotic expectations. It is a physical power to crush a system and at the same time a moral power to redeem nations that have gone astray.

In one of his beautiful conversations with the people, a great leader of men, as well as of sentiment and thought, your illustrious President, Mr. Wilson, once asked himself while pondering on the measures of his country's righteousness and the responsibilities of his eminent position, to what account he could best apply the tremendous power of this Nation that had been placed in his hands by the free will of his fellow citizens. A few years have passed and now the problem is solved. He offered it for peace; and when ruthlessness prevailed against the laws of humanity he put it at the service of humanity to reestablish the empire of international justice. To this cause Cuba has pledged herself with you in a brotherly spirit. Her cooperation as an ally will not be found wanting.

Mutual sentiments of esteem have brought us nearer than ever to you, and as our affection has grown, so our commercial relations. Fifth Avenue, today the magnificent boulevard of the Americas, has contributed to that growth.

At the head of your trade with Latin America, we hope to remain there forever. If, being your nearest neighbor, we are happy to have passed by far all our other sister republics, even the greatest among them, in exports to and imports from the United States, which represents a national triumph, we are happy also because we have inspired your confidence and have bought of you or returned to you in splendid earning, millions and more millions for the millions and millions you have invested in Cuba or in the products of Cuba. This is, however, only the beginning of relations that will increase and promise to establish permanently on the verge of your continental territory one of the most profitable and surest markets for the fruit of your soil and the products of your industries. When reading the official statistics of our commerce with the United States, I am sure that you have compared their result with the population of the Republic and felt that such a showing was a proof of many of the same qualities and virtues in the people of Cuba that have built up your own gigantic economic structure. This must suffice to guarantee the future of our good relations, as the mutual benefits obtained from every mode of our intercourse become every day more valuable and real.

It must not be forgotten that such a community of interest was preceded by the community of ideals that has brought us simultaneously to the camp of the allies in the present war. Though not as far advanced and wise as you in the use of democracy's instruments, we appreciate and love the advantages of the people, of the Government of the people, by the people and for the people, as opposed to the rule of kings and the institutions from which terror and despotism are derived.

After the luncheon, within 20 minutes, a number of those present subscribed to \$1,000,000 worth of Liberty Bonds, of which amount Dr. de Cespedes took \$5,000.

PROMINENT IN PAN AMERICAN AFFAIRS

THE HON. JOHN WATSON FOSTER, former minister to Mexico, Spain, and Russia and former Secretary of State of the United States, the father-in-law of the present Secretary of State, the Honorable Robert Lansing, and the dean of the United States diplomatic service, born in 1836, died in Washington November 15, 1917.

If there had existed in the United States a consultive body similar to that of the Older Statesmen of Japan, then John Watson Foster would have been a member and appropriately the chairman of this body. It has been said with truth that diplomacy is not a career in the United States. From Benjamin Franklin and Arthur Lee to John Hay and Elihu Root concern with diplomatic problems has furnished but one channel of activity for men whose lives have been for the most part devoted to other work. Participation in international affairs has ordinarily been but an incident in the careers of the best known, even the internationally best known, statesmen of the United States. But this was not true of Mr. Foster. From 1873 to his death in 1917, a period of 44 years, his work was entirely in the diplomatic field or along cognate lines. So true was this and so closely had these 44 years of connection with international questions identified John W. Foster with the diplomatic service that even his nearest friends had almost forgotten that in his earlier life he had been a soldier, a politician, and a newspaper editor.

Born in the State of Indiana on March 2, 1836, he was graduated from the University of Indiana in 1858 with the degree of master of arts. For one year he studied law in the Harvard Law School and at the outbreak of the Civil War in 1861 was practicing his profession in the city of Evansville in his native State. He entered the Union Army at the beginning of the war as major of the Twenty-fifth Indiana Volunteers. He was promoted to lieutenant colonel at the Battle of Fort Donelson and to colonel at the Battle of Shiloh. After the war in 1865 he became editor of the Evansville Daily Journal and remained such until 1869. He was postmaster at Evansville from 1869 to 1873; meanwhile in 1872 he was chairman of the Republican State central committee.

In 1873 his connection with international affairs began, a connection never to be broken until his death, November 15, 1917. He was appointed minister to Mexico by President Grant at the beginning of his second term in 1873, Hamilton Fish being Secretary of State. This position Mr. Foster held until 1880, through the Grant



JOHN WATSON FOSTER.



JULIO PUEYRREDÓN.



CARLOS A. MEZA.



ROLAND BRIDENDALL HARVEY.

administration and nearly through the administration of President Hayes, with William M. Evarts Secretary of State. Mr. Foster served during the last year of the Hayes administration, 1880 to 1881, as minister to Russia. After the inauguration of President Garfield in 1881, with James G. Blaine Secretary of State, Mr. Foster retired from active connection with the diplomatic service and began in Washington the practice of international law as counsel before international commissions and arbitral boards, but was recalled to the service in 1883 and appointed minister to Spain. This was after the death of President Garfield and in the administration of President Arthur, his successor, with Frederick T. Frelinghuysen Secretary of State. Mr. Foster served as minister to Spain until after the inauguration of President Cleveland. He then returned to the practice of international law and remained engaged in this work until he was appointed by President Harrison in 1891, Mr. Blaine at this time being Secretary of State, as special plenipotentiary to negotiate reciprocity treaties with Brazil, Spain, Germany, the British West Indies and other countries. Mr. Blaine resigned as Secretary of State on June 4, 1892, and on the 29th of the same month John W. Foster was appointed and confirmed by the Senate as his successor. In this position he remained until February 23, 1893, about two weeks before the end of the Harrison administration. After his retirement as Secretary of State Mr. Foster served in Paris as agent of the United States in the Bering Sea arbitration case. In December, 1894, he was invited by the Emperor of China to take part on behalf of China in the peace negotiations with Japan following the Chino-Japanese war. Mr. Foster arrived in Japan in January, 1895, a few days ahead of the Chinese commissioners. As may be remembered, these commissioners were not clothed with full powers, in consequence of which the Japanese commissioners refused to treat with them. Mr. Foster accompanied the unsuccessful commissioners back to China and returned with Viceroy Li Hung Chang, sole commissioner on the part of China, who signed the Shimonoseki treaty of April 17, 1895. Throughout the negotiations Mr. Foster acted as the principal advisor of the Viceroy Li. The connection between the former United States Secretary of State and China formed at that time endured through all the changes in the China form of government up to the time of Mr. Foster's death. He was one of the representatives for China at the Second Hague Conference in 1907. Before this, however, he had again served his own country as ambassador on special mission to Great Britain and Russia in 1897, and as agent of the United States before the Alaskan Boundary Tribunal in London, 1904.

Mr. Foster was the author of *Biography of M. W. Foster; A Century of American Diplomacy in the Orient; Arbitration and The Hague Court; The Practice of Diplomacy, and Diplomatic Memoirs.*

Dr. JULIO PUEYRREDÓN was born at San Pedro, Province of Buenos Aires in the year 1855, and died in the city of Buenos Aires October 17, 1917, at the age of 62 years. Member of a family which from colonial days has furnished to Argentina a long line of distinguished statesmen and soldiers, the best known of whom in the earlier years was General Juan Martín Pueyrredón, elected Supreme Director of the Argentine Republic in 1816, and after whom the department (*partido*) of Pueyrredón in the Province of Buenos Aires and the town of Pueyrredón in the Province of Córdoba are named, Dr. Julio Pueyrredón was himself a man well in the front rank of the later-day builders of Argentina. He was a graduate of the University of Buenos Aires with the degree of doctor in law in 1880; he practiced his profession for many years and sat in the Provincial Legislature; but Dr. Pueyrredon's principal activities were along other lines. He was best known as a scientific agriculturist, a man interested and in the forefront of many things appurtenant to the agricultural and particularly the cattle industry of his native country. He served on numerous agricultural commissions, as delegate to national and international conferences of agriculture. He was a prominent member of the Argentine Rural Society, perhaps the single greatest agency in the upbuilding of Argentine agriculture, and was president of the society in 1896 and 1897. Dr. Pueyrredón took the greatest interest in all matters of civic improvement, and was in 1889 one of the founders of the well-known Civic Union of Argentina. Of him *La Prensa* of Buenos Aires says: "Dr. Julio Pueyrredón was an exponent well qualified of the most cultured center of metropolitan society and the prototype of the progressive and intelligent agriculturist. He was one of those men who could pass from the actual business of farming to the salon without losing his habitual aristocratic bearing and distinction. In this he followed the best traditions of Buenos Aires society."

In the recent death of Dr. DON CARLOS A. MEZA, secretary of the Salvadorean Legation in Paris, the Republic of Salvador has lost one of its most promising young diplomats. Dr. Meza was well known in Washington, and the announcement of his untimely death brought sorrow to scores of his friends in the diplomatic and social circles of the capital of the United States. He served as secretary of the Salvadorean Legation in Washington from February 22, 1913, to 1916. On October 13, 1916, he was appointed secretary of the Legation at Paris, and was in the discharge of the duties of that post when death called him. Dr. Meza was born in the city of Santa Ana about 27 years ago, and was educated in the schools and higher institutions of learning in that city, subsequently taking his degree in law at the National University. He was a young man of exceptional attainments and brilliancy, of pleasing personality, and gave promise of a splendid career.

ROLAND B. HARVEY was born in Baltimore County, Md., October 12, 1870, son of William Pinkney and Virginia Jordan Harvey. His earlier educational training was in private schools in the city of Baltimore and afterwards in like schools in Switzerland, France, and Germany. He took the degree of bachelor of arts at Johns Hopkins University in 1895, and of bachelor of laws at the University of Maryland, Baltimore, in 1896. He was admitted to the bar of Maryland immediately after his graduation by the law department of the university, and one year later, in 1897, to the bar of New York. He practiced law in the city of New York for two years, 1897 to 1899, after which he returned to his native State. For three years from 1904 he was assistant state's attorney of Baltimore City. In 1907 he resigned this office, and in 1909 retired from the practice of law and entered the diplomatic service of the United States. His first appointment in the service, August 27, 1909, was after examination, as secretary of legation and consul general to Roumania and Servia and secretary of the diplomatic agency in Bulgaria. Mr. Harvey acted as chargé d'affaires at Sofia from March to July 1910. His second appointment was as secretary of legation in Lima, Peru, in February 1, 1912. He did not serve in this position, but was transferred to the legation at Santiago, Chile, where he remained for nearly two years, serving as chargé d'affaires, in the absence of Mr. Henry P. Fletcher, the minister (afterwards ambassador) to Chile, from May to August, 1912, and from September, 1913, to February, 1914; the latter period covered the visit of former President Roosevelt.

In February, 1914, nearly six months before the outbreak of the war in Europe, Mr. Harvey was transferred to the embassy at Berlin where he served as second secretary of embassy until Ambassador Gerard and the embassy staff were ordered from Berlin in February 4, 1917, after the rupture of diplomatic relations between the United States and Germany. Thus his service in Germany covered two and a half years of the most eventful period of the great war.

In the death of Mr. Harvey, which occurred November 14, following an illness of several months duration, the immediate result of a fall breaking his hip bone, the United States loses a most loyal, accomplished, and capable diplomatic servant. His two years' service in Chile gave him a broad and balanced knowledge of South American affairs.



PAN AMERICA IN THE MAGAZINES

Felix Pardo de Tavera, the celebrated Argentine sculptor is the subject of the July installment of the "Sculptors of the Americas" series running in the Spanish edition of the **BULLETIN**. The following is the English version of the article:

In the large number of monuments and statues which grace the Argentine capital and add so much to its beauty the artistic genius of the country is well represented. Sculptors who claim Argentina by birth or adoption have contributed their proportionate share of splendid monuments and imposing statues and many of the sculptural decorations from the Argentine ateliers compare most favorably with those of the foreign sculptors.

Among the Argentine sculptors the name of Dr. Felix Pardo de Tavera is perhaps as well known as any because of his numerous and notable productions. An Argentinian by adoption, he has lived in that country for over a quarter of a century and has drawn inspiration and encouragement from its aesthetic life. The story of his career from physician to dilettante painter and finally to an eminent sculptor is not without interest. Born in Manila, Philippine Islands, he received his early schooling in the Municipal Atheneum of the Jesuit Fathers. As a young student he showed unusual artistic tendencies and studied drawing in conjunction with his other school work. An early painting of the Virgin Mary which he attempted attracted much attention and won a position on the walls of the college at Manila. Medicine, however, was his chosen vocation, and,



DR. FÉLIX PARDO DE TAVERA,
SCULPTOR.

His innate artistic temperament, manifested from childhood, induced him to abandon scientific work and confine his activities entirely to sculpture, a field in which he has been eminently successful. At present he is considered the most notable sculptor of the Argentine Republic, his adopted country.



BUST OF DR. PELLEGRINI.

This marble bust of the celebrated statesman and former President of the Argentine Republic, Dr. Carlos Pellegrini, is the only one made from life. The work shows the exquisite skill of the artist, who, by noble and vivid lines, portrays the character of his model.



C'EST MI.

This bronze statue, of which many copies have been made, was awarded the prize of honor at Barcelona and acquired by the Museum of that city. It may be said that this gracious achievement brilliantly marks the beginning of the author's triumphal career, inasmuch as it is one of his first productions.

24333-17-Bull. 5—7



THE SECRET OF THE ROCK.

This high relief in marble was exhibited in 1904 at the World's Fair, St. Louis, where it obtained the great medal of honor. Critics consider this production one of the best works of the celebrated Argentine sculptor.

completing his preliminary school work in Manila, he went to Paris to continue his education.

In 1886 Tavera was awarded a diploma from the medical faculty of Paris. In Paris and in Ber sur Mer he worked under the eminent Dr. Calot specializing in infants' diseases. But even as a medical student his interest in art continued to grow and he spent his spare hours at the Julien Academy where he developed a knowledge of painting under Bouguereau and Tony Robert Henry. At the end of the second year, however, he abandoned brush and palette for chisel and hammer.

While passing a summer at Switzerland the young physician-painter was attracted to a little shop where a small group were modeling artistic vases and pitchers from baked clay. He joined the class and before long excelled in turning out similar objects of art. Returning to Paris, he commenced to devote himself to modeling busts and bas-reliefs.

In this class of sculpture he found ample opportunity for the expression of his conceits and their skillful execution. In 1889 he received his first official recognition when he was awarded a silver medal at the Fine Arts Exhibit at Paris for his bronze statue representing a woman engrossed in thought. Three years later at the exhibit of Barcelona this same bronze won much praise and was granted a diploma of honor. It was also acquired by the Spanish Government for its art collection in the Museum of the House of Deputies.

The following year Dr. Tavera exhibited, at the Paris Salon of the Society of French Artists, a bronze statuette representing a little street urchin. He called this happy concept "C'est Mi," a fitting title, for the pert expression of the little gamin is delightfully refreshing. This figure has enjoyed great popularity wherever it has been exhibited, and many a replica has been made of it in response to commissions. In the Barcelona exhibit of 1891 it received a diploma of honor, and the Government added it to its sculptural collection.

"The Struggle for Life" is a bronze group which the sculptor exhibited for the first time in the Salon of Paris. The subject is given a light allegorical interpretation. A terra-cotta bust of the Spanish Adelantado, Don Miguel Lopez de Legazpi, commanded the admiration of critics and was purchased by Spain for display in the Navy Museum of Madrid. Other groups, more or less known to art students of Europe and South America, include his "La Corvée," a symbolic representation of Service; "El Cuco;" and a full standing figure of the noted Spanish painter Goya.

About this time Dr. Tavera was winning a place for himself in sculptural circles, and his reputation became established. He left Europe for Argentina, and, settling in Buenos Aires, adopted the citizenship of that country, and then entered upon a period of sus-



PANDORA.

This marble statuette, now the property of Dr. Rómulo S. Naón, Argentine Ambassador in Washington, is a beautiful drawing-room adornment. The gracious and delicate harmony of the lines of the female figure, as well as the mysterious expression which seems to be depicted on its face, brings to memory the exploits of this beautiful woman of Greek mythology.



THE RASCAL (EL CUCO).

This group, which was exhibited by its author in 1892, is surprisingly realistic. The modeling, as well as the movement of the figures which comprise it, and especially that of the man, show the skill which the sculptor possesses for reproductions in clay of curious scenes from real life.



MODEL OF MONUMENT TO RIZAL.

This miniature monument to Rizal—inspired poet, celebrated physician, and martyr of Philippine independence—is in the Museum at Manila. On the front of a column overlooking a group of Philippine warriors stands a marion representing the country, holding in her arms the inanimate form of Rizal, on whose forehead a winged figure is depositing a laurel crown. The posture as a whole suggests grandeur and inclines to meditation and respect.

TWO WORKS OF PARDO DE TAVERA.

The Gormand—Statue in colored marble wrought in real artist's taste and in which the author expresses the egotistic satisfaction portrayed on the face of a gluttonous child on being able to satisfy the desire of his appetite. This valuable work belongs to Sr. Eugenio C. Noc., of Buenos Aires. In the Park, in this bronze group, which was exhibited in the gallery at Paris in 1891, the artist has reproduced with exquisite skill one of the humorous scenes which often occur in the public parks. A young child seated on a wheeled chair sees its peaceful repast interrupted by a roguish dog which tries to steal a slice of bread; but another older youngster quickly runs to the defense of the despoiled one and in a struggle with the animal compels it to desist. All the figures of the group are remarkably true to life.



tained sculptural activity. From his atelier came forth statues, busts, groups, and reliefs, gaining him further commissions and increasing prominence. He used both marble and bronze effectively.

Among the more important of his later efforts mention should be made of the piece of sculpture, "The Secret of the Rock," which was exhibited at the St. Louis Exposition in 1904 and for which he received the grand medal of honor. It is an alto-relief in marble exquisitely colored. Chiseled out of the marble rock is the beautiful head and graceful torso of a woman. It has made a strong appeal to art lovers everywhere. The masterly execution of the subject, the soft lines and exquisite charm which he has imbued into it make it one of the most striking objects of beauty in the art exposition at Carapachay, Argentina, where it is displayed.

Tavera's "Pandora" is another work which has won him much praise. It is a marble conceit based on the classic legend of Pandora and the secret box and is wrought with a nicety that reflects the talent of its maker. It was acquired by H. E., Dr. Romulo S. Naón, the Argentine ambassador to the United States, and adorns the embassy at Washington.

A bust of San Martín is another of his more notable achievements. It obtained the first prize in the Buenos Aires contest of 1910. The original marble of this great liberator-soldier-statesman graces the reception salon of the White House at the Argentine capital. A marble replica of it was presented by the Argentine Government to Chile and is exhibited in the treasury building at Santiago.

"The Cannibal," in spite of its terrible name, is another delightful conceit, cleverly executed. It represents a child innocently biting a little doll. It is a charming piece done in colored marble, and was acquired by Eugenio C. Noe for the private collection in his home.

Other works by Tavera include the statue of Dr. Julian Aguilar in the Hospital of San Roque at Buenos Aires; the statue of Esteban Adrogüé in the town named after him; the full figure of Bernardo de Irigoyen adorning Avenida Montes de Oca; the bronze bust of Carlos Pellegrini modeled from the subject while alive; and the monument of the Drummer of Tacuari in the Plaza Máximo Paz in La Plata.

Dr. Tavera's works have received generous praise from eminent critics of Europe, and the press of France and Spain have been liberal in their appreciation of his efforts. Personally the sculptor is a man of charming presence, genial, sympathetic, and cordial. His artistic and discriminating tastes have combined to make his home one of genteel refinement and elegance.

Sliding off the World's Roof, in a recent number of the Ladies' Home Journal, is another interesting contribution by Mrs. Harriet Chalmers Adams to the literature dealing with the little-known regions of the eastern side of the Peruvian Andes. Mrs. Adams,

widely known as a world traveler and lecturer, is an occasional contributor to the BULLETIN, and is at her best when describing some of her adventurous experiences in the wilds of South America, regions that in many instances but few white men and no other white women have had the temerity to explore. The following excerpts from her article embody some of the striking and delightful descriptions of the region visited upon this occasion, and also throw an interesting side light on some of the aboriginal inhabitants encountered.

I stood on the Roof of the Western World—the summit of the Andes. In the melting snows at my feet lay the source of a headstream of the mighty Amazon. I had long pictured the view from this topmost portal—how the mountains would tumble down to the plain, range on range, canyon after canyon; how a vast wilderness would spread out before me, the beginning of an impenetrable jungle, stretching 3,000 miles from the Andes to the Atlantic.

Instead, I looked down on a sea of billowy clouds!

Into this cavern of mist we descended. There were nine of us, if you count the horses. My husband and I were in search of adventure; the English naturalist was bound for the forest to collect butterflies and moths for the British Museum; Pedro, the half-breed muleteer, was supposed to be the guide. There were four saddle horses, and a cargo animal laden with canned food and ammunition. Rifles hung from the pommels of our saddles; blankets and cameras were strapped on behind, and every saddlebag bulged with necessities for the journey into the wilds.

Peru may be likened to a tall gray-stone house with a steep flight of steps leading up to the roof. From this bleak roof rise the highest chimney peaks of the Americas—mountains perpetually snow-crowned, their imperial heads glistening in the sunlight like a Titanic chain of diamonds. Behind this chilly, drab house lies nature's loveliest garden, but no well-built stairway leads down to it. The traveler, bound for the vine-hung wonderland of the tropics, risks his life and slides off the roof.

We slid.

Never have I seen such a steep, slippery trail; it was in the bed of a brook which tumbled down the mountain side to a canyon far below. The wet mist enshrouded me, screening the rider ahead; the rain fell in torrents. My dejected white horse tripped over rolling boulders, hurling me to and fro in the saddle, and finally pitched me, heels over head, into the stream. There I lay until the men came to the rescue, looking, I am sure, like a wet mummy, for my costume that day was a wonder to behold.

* * * * *

Now the trail left the river and climbed the cliff, where it wound along a stony ledge with a sheer drop of a thousand feet to the canyon floor below. It was a very narrow trail, not over 30 inches wide, with projecting crags and sharp turns. I was using a sidesaddle, but ever since this experience I have ridden astride. My horse, recalling the fate of pack animals who had struck the wall with their loads and fallen into the abyss, decided to avoid this catastrophe by keeping to the very edge of the trail, so my feet hung over the yawning chasm. By this time I was too exhausted to be greatly concerned whether I hung on or rolled off into eternity. I dimly recall a faint, winding, silvery thread far below in the mist—the river serpentine its way through the canyon. It was midnight when we reined up at a hut on the edge of the forest, after 19 hours in the saddle!

This shelter hut belonged to an American mining company that had built the trail we were following. The company's office was up on the plateau, near Lake Titicaca, the mine itself some days' journey farther on down-trail. A lone American was posted at the shelter to oversee provisions and mail going in and gold and mail coming out. Here we left our friend, the naturalist, with his butterfly net for work by day



Photograph by Ralph Lohman.

QUICHUA PEASANT WOMEN OF THE PERUVIAN HIGHLANDS.

These women are most industrious and busily spin their cotton as they drive the llamas along the Andean trails.

and his acetylene lamp to entrap inquisitive moths by night. The American boys at the mining office had dubbed him "Bugs," and the nickname clung to him. I can see him now, carefully sorting the opalescent beauties from his knapsack, his face all aglow at a new variety, dearer to him than the Kohinoor diamond. Poor chap! He died there of fever the next year.

Pedro failed to appear with the cargo animal that night, and the next morning there was still no sign of him. We assumed he had lingered behind in the village and would soon overtake us. Provisions were running low at the hut, and Mr. Adams and I decided to start on alone.

"Follow the river," said the friendly American who had sheltered us. "And be sure to look for the new trail at the foot of the canyon; I hear there's been a landslide on the old one."

He and good old "Bugs" stood in the cabin door, waving to us until we disappeared round a turn in the trail.

Our tortuous path had been cut out of the rock on the side of a gorge. It crossed and recrossed the canyon by means of swinging bridges hung on cables—bridges only 3 feet wide, without railings. They swayed like a hammock as we rode over them. I could not dismount and walk across when we came to a bridge, as there was no space of ground to drop on.

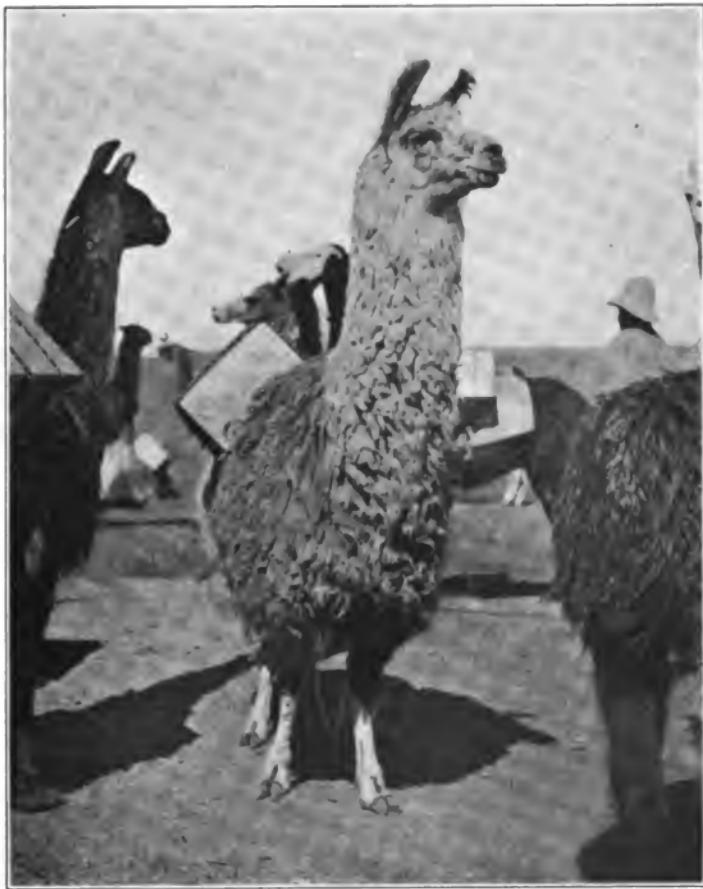
In spite of danger, fatigue, and a lean larder we were keenly alive to the beauty of this Agualani canyon. It is one of the loveliest in all tropical America. Its walls are hung with every variety of luxuriant tropical verdure and curtained with countless silvery waterfalls. Pink and white begonias as large as bushes grow beside the trail, and ferns of giant proportions. We looked down on waving palms, on great trees filled with orchids, and all agleam with iridescent butterflies. Macaws of brilliant plumage and rainbow-beaked toucans flew by.

We had been on the alert all day for travelers bound up-trail, and now we saw a train of llamas coming toward us across the chasm. My husband slipped off his horse and dragged me over my pony's head. Then we ran to the widest place in sight, and flattened ourselves against the wall, leaving the more experienced horses to shift for themselves.

Over the swaying bridge came the llamas, heads erect, great, curious eyes wandering. Behind were two Indian drivers, calling "Buss-ss-ss," the hissing Andean cry that causes the pretty highland camels to prick up their ears and hasten their dainty feet. When they saw us they were in a panic, and as they scrambled past, trembling with fear, one poor, golden-brown llama made a misstep, struck a neighbor in his fall, and they both went over the brink. The picture haunted me for days.

As the day wore on we were drenched by the daily storm. Night found us stumbling along a rocky ledge in a torrential downpour and inky darkness, leading our tired horses. Our wet corduroy clothes felt as heavy as lead. The path grew narrower, narrower. Then it flashed on us: We were on the old trail with the landslide. With the animals behind, it was impossible to turn back, so we crept on hands and knees. The horses seemed to realize the danger, and were as cautious as we. Above the storm we heard the roar of the river below. Rocks fell about us. The earth slipped beneath us. Death was very near.

At last we reached a wider place and huddled there. After a while we groped our way down to the river and found that the bridge had been swept away. We could only curl up on the trail by the horses and wait for the dawn. The storm ceased, and the great, brilliant, tropic stars shone out. Nature's forest luminaries, the fireflies, glimmered through the canyon. A thousand voices spoke to us from the verdure; 10,000 insects came to torture our vigil. Dawn at length, with everything in the saddlebags soaked. As we breakfasted on a dozen malted-milk tablets that had escaped the deluge we wondered why Pedro had not come along with the food. Perhaps he, too, had strayed to the old trail. We called and discharged a pistol, but there was no response. Going down to the river to investigate we saw that the seething torrent had spared one log of the bridge. Food, shelter, and dry clothing lay beyond the river. We decided to risk the log.



LLAMAS ON THE HIGHLANDS OF PERU.

"Over the swaying bridge came the llamas, heads erect, great, curious eyes wandering. Behind were their drivers, calling 'Buss-ss-ss,' the hissing Andean cry, that causes the pretty highland camels to prick up their ears and hasten their dainty feet."

The horses must remain behind, as no animals could brave that rushing current. We took off their bridles that they might graze, and left them to be guided through the stream by the dilatory Pedro when the waters abated. I embraced my dear little pony, who had not stumbled with me on the swinging bridges, and told him to "fill up on nice, juicy ferns." Then two travel-worn pilgrims began their circus act on the long, slippery log, high above the roaring river.

My husband improvised a line from bridles and fastened it about my waist. He held on to it while I lay flat and pulled myself across, inch by inch. In mid-current I got so dizzy I came near losing hold, but the hardest part was watching "the other fellow" crawl over. Then came the long march over the rocky trails, through swollen streams, in one of which I lost my footing and my companion pulled me out by my hair. Through it all I hung on to three precious possessions tied to my sombrero—my diary wrapped in oilskin, a necktie that a mother in California had crocheted for her boy at this far Andean mine, and a jar of cold cream.

The next 48 hours were a nightmare. We were alone in the wilderness, hungry, foot-worn, wet. But we reached the Inambari River at last, and staggered on toward the mine. I have read of royal receptions, of emperors receiving victorious generals, of kings greeting princes of the realm, but they pale beside our welcome at that American mining camp in the heart of the South American jungle.

There were 20 Americans and several hundred workmen, of mixed Indian and Spanish blood, at this gold-quartz mine, situated in the Peruvian Province of Caravaya, long celebrated as gold district. The Americans lived quite comfortably, as the company had gone to great expense to bring in luxuries, as well as necessities, on the backs of mules and llamas. The "boys" had porcelain-lined bathtubs, rocking chairs, a talking machine, and good things to eat. At breakfast, the day after our arrival, we had genuine American hot cakes and maple syrup.

When we had been a week at the mine, Pedro limped in with the saddle horses and a tragic tale. The cargo animal had fallen off the cliff this side of the Quichuña village. Pedro had tried to save our belongings, without success. Yes; he had seen the precious caoutchouc bag with our clothes and my reserve stock of cold cream, but it was sailing down the river. I have since pictured the belle of some savage tribe attired in my blue and white striped gown.

On the desert coast and the wind-swept plateau of Peru we had heard the English-speaking residents refer to the mysterious land beyond the Andes as the "inside" country. "Harry is going 'inside' to look for rubber trees," or "Poor Jack went 'inside' last year with four other fellows. Never heard of them. Don't know whether it was savages or fever."

Through hard months of highland wayfaring, as we camped by isolated reed-fringed lakes or on the slopes of snow-clad mountains, I dreamed of the alluring forest beyond the frowning Andean wall. Now we had reached the promised land, at least we thought we had until we talked it over with the doctor, who had been a schoolmate of ours in California.

"No; you aren't really 'inside' yet," he said. "You must keep on down trail, if you want the real thing. At the end of the saddle trail the company has cut through the rubber forest. You'll have to hike through the bush to a navigable river. Not many of the rivers have names yet, as all the country beyond here is still marked 'Unexplored' on the Peruvian maps. Once in a canoe, it's straight paddling a good long way downstream until you meet the trading launches, coming up from the Madeira River for rubber."

To the inside of the "inside" we determined to go—to the vine-mantled shores of great, unnamed streams rushing on to the King of Rivers; to the twilight depths of the mightiest jungle on earth, peopled by savages who had seen few white men and no white woman, and their strange, wild kindred, the tapir, jaguar, sloth, anteater, and all the others that had thrilled me from the pages of the "Big Geography" when I was a youngster.

It required little persuasion for the doctor and the engineer to join the expedition, so now we were four. We took along a more experienced man than Pedro, fresh horses,



AGUALANI CANYON, PERU.

"This is one of the loveliest canyons in all tropical America. Its walls are hung with every variety of luxuriant tropical verdure and curtained with countless silvery waterfalls. Pink and white begonias as large as bushes grow beside the trail, and ferns of giant proportions. We looked down on waving palms, on great trees filled with orchids, and all gleamed with iridescent butterflies. Macaws of brilliant plumage and rainbow-beaked toucans flew by."

and a sturdy cargo mule. We were all armed, as we were to depend largely on game and the savages were not to be altogether trusted. The men at the mine assembled to see us off, and some of them shook their heads at a woman's undertaking such a journey.

So we started, and first we came to the "place of the wonderful view." We looked back on the many ranges we had crossed, and far in the distance gleamed the towering snow peaks of the highest range of the Andes. Turning, we saw, as on a raised map, the long, winding canyon through which we were to descend to the plain.

Just then a troop of brown monkeys came swinging over our heads, chattering and scolding, frightened by a herd of peccaries that plunged out of the thicket. The men were in instant pursuit of the wild pigs, as they are good to eat. I stayed behind on the trail, to snapshot the monkeys, the first I had ever seen in the wilds.

On the days following, roasted peccary, tapir steak, parrot, and toucan soup were featured on our bill of fare. These I managed to eat. But I drew the line at monkey stew. The men said it was "all right," tasted "just like Belgian hare"; but it somehow seemed cannibalistic, and I went hungry rather than eat it.

Of all forest food I liked palm salad best, made from the heart of the young palm. It tasted like tender cabbage, but we had to chop down a beautiful tree every time we indulged in this delicacy.

We left our horses at a rubber camp at the end of the saddle trail, and made our way on foot through the jungle. There are not enough uncomplimentary adjectives in the dictionary to describe this portion of the journey. When we were not forcing our way through the brush the trail was in soft mud into which our feet sank at every step. When we managed to pull one leg out the other sank in knee deep.

After an exhausting march we reached the Peruvian frontier post of Puerto Can-damo, a few shacks at the meeting of two navigable rivers, where a young captain and eight negro soldiers were stationed. The white man hailed from Lima, the gay Peruvian capital far away near the coast. He was overjoyed at seeing us, and said he had met few civilized men and no white woman in three years. He and his men had been living on game, yucca, and plantain, the big cousin of the banana, since the provisions had given out, and were waiting anxiously for supplies. Our slim stock of canned goods looked good to the captain.

That evening we had a banquet. The post furnished fried plantain, boiled plantain, and stewed plantain, three dishes of yucca, and the everlasting monkey stew. Our offering consisted of beef broth made from compressed tablets, twelve crackers, tea, three cakes of chocolate and a can of peaches. It was the peaches that overwhelmed the captain. Behind each carved-log seat stood a hungry soldier, and never have I seen quicker service. We soon realized the danger of pausing for conversation; it was safer to hold on to one's plate.

We had slid down from 17,000 feet at the Andean pass to 1,200 feet above sea level, and were now in the land of the Chunchos, a powerful savage tribe. The Incas were never able to conquer these people; and they live now just as they did in remote centuries before the temples of the ancient Peruvians were erected on the shores of Lake Titicaca.

The policy of the few white men who had recently entered this region had been a gentle one, and the savages were inclined to be friendly. Our experience was the same with jungle people throughout the Amazonian valley. On later journeys into the interior, when Mr. Adams and I were alone and quite at the mercy of the natives, we were treated kindly.

The Chunchos have thatched shelters, navigate the rivers in canoes hewn from tree trunks, live on game and fish, shooting both with bow and arrow, and on forest products, principally plantain and yucca. Bathing daily in the river, they are more cleanly than the semicivilized Indians of the highlands.

It is a pretty sight to see a savage youth, clad in a garment of bark skin, paddling downstream from his banana plantation with his laughing girlwife attired in a bark skirt and a monkey-tooth necklace, their plump, naked baby sitting on a huge bunch

PHOTOGRAPHS FROM THE PERUVIAN FORESTS.

Left: A rubber picker of the montaña. Center: A jaguar, shot by a gun trap. Right: A tapir.



of bananas in the bow. Such a picture made me feel they should be left to paddle their own canoe; but when I saw how their bodies are scarred by the onslaught of armies of insects, and realized that the fear of evil spirits shadows all their days, I felt that civilization must march on.

Not far from Puerto Candamo we slept one night in a palmetto hut, built by the soldiers, on the edge of an impenetrable jungle. The hut was set up on stilts, and we climbed in on a ladder of vines, pulling it up after us.

That evening we four played games by the light of a candle, and all the insects of the forest came to umpire. When they became too friendly we blew out the light, and the tired men threw themselves down on the uneven flooring and were soon asleep.

I had a softer bed of branches; but somehow I could not sleep. I stole to the door and looked out.

By the light of the moon the beauty of the tropical forest was unearthly. No pen picture can make one who has not seen it feel its haunting charm. I, first of white women, gazed on a new world as enchanting as the Eden of Eve. I looked down on treetops carpeted with bloom, on queenly tree ferns swaying in the breeze, on plumed palms bending their regal heads—the whole interlaced with vines and creepers into a waving sea of verdure. The dank of odor of the jungle, which has ever since lured me, came to me on the wind. I felt an uncanny sense of life and movement in the great, silent forest. I listened breathlessly as one listens to the beating of the heart. Something stirred in the lurking shadows. * * *

I crept back to bed and tied a chiffon veil over my face as a protection from the insects, but for a long time I could not sleep. I imagined that jaguars were playing tag under the house. I thought I heard a strange, flapping sound. * * *

At dawn I called several times to Mr. Adams, but he did not answer. Running over to the corner of the hut where the men lay, I was horrified to see their faces covered with blood. Failing to waken my husband, I pulled frantically at the doctor.

He opened his eyes, put his hand to his face, and said "Vampires!" Then he roused the others.

The blood-sucking bats had paid us a visit in the night. The flapping I had heard may have been the fanning of their wings. Wakefulness and the chiffon veil had saved me, but the men had been heavy with sleep.

These terrible creatures bite the victim with their daggerlike teeth, inflicting a wound resembling a deep razor cut. The nose or ear is the usual point of attack, and the wound continues to bleed profusely after the vampire is sated. Young children are sometimes so weakened by continual attacks from the vampire that they die, and bands of cattle and horses are known to have been exterminated.

We found that hundreds of these bats made their home in a hollow tree near the cabin. For many nights after I, for one, slept with one eye open.

From Puerto Candamo there is a navigable waterway across South America to the mouth of the Amazon, with the exception of the stretch of falls in the Madeira River, around which a railroad has been built. You will find the winding Tavara River on the brand-new maps, and can follow the course, by way of the Tampobata, Madre de Dios, and Madeira, to the Amazon. The Tavara's emerald shores were brightened by flowering trees in great masses of scarlet and gold and here and there were delicate pinks and whites, like blossoming fruit trees at home. We were well on our journey across South American; but it was not our plan to cross the continent at this latitude. We were to return to the highlands over the same difficult trail for further exploration in another part of Peru.

You may wonder how I managed in the wilds with scanty equipment. I relied on Dame Nature. She has vine-screened bathtubs in the river; soft leaves for towels and bark for soap in the forest. It is amazing how well groomed one can be, with care, even without the luxuries of civilization. Clothes become tattered, and shoes have a most annoying habit of wearing out; but the air and the sunlight, and the adventure and romance of exploration are full compensation to some of us for discomfort, hardship, and danger.



Courtesy of the New York Zoological Society.

A VAMPIRE.

"These blood-sucking bats bite the victim with their daggerlike teeth, inflicting a wound resembling a deep razor cut. The nose or ear is the usual point of attack, and the wound continues to bleed profusely."

Since the expedition into the "inside" country of Peru we have reached many other unmapped regions where I have been the first white woman, yet no other land has been so dear to me. Here, in the din of civilization, the wander-torch gleams through my dreams, and the land of greatest lure lies in that enchanting forest country on the other side of the Andes.

PAN AMERICAN NOTES

PROJECT REGARDING THE UNION OF CENTRAL AMERICA.

ONING to the suggestion made that a Central American Congress of Plenipotentiaries be convened in order to renew the conventions made at Washington in 1907 and especially the convention establishing the Central American Court of Justice, the Government of Honduras, through Señor Doctor Francisco Bertrand, President of the Republic, in accepting the proposition has communicated with the other Governments of Central America proposing that the projected Conference of Plenipotentiaries be principally occupied in establishing the bases of Central American Union.

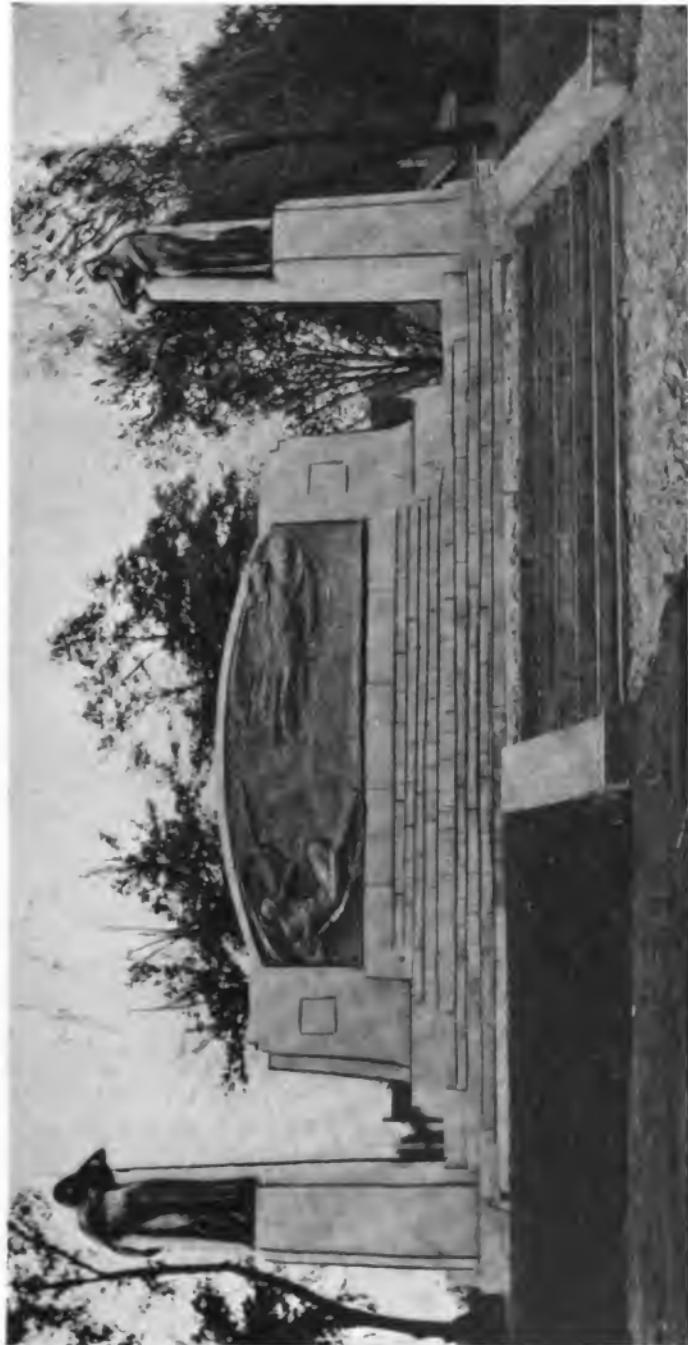
President Bertrand made the proposition considering that the moment has arrived to reconstruct the old Central American Nation and being inspired by the sentiments of fraternity which now exist between the peoples and Governments of Central America.

The initiative of the President of Honduras has been accepted by the Governments of Central America and at present the bases and the fixing of the place for the assembly of the plenipotentiaries are being discussed.

Throughout Central America there have been founded clubs, propaganda centers, and newspapers favoring the idea. In the capital of Honduras the propaganda is under the direction of a central committee which has sent two delegates to each of the Central American States. These delegates have been cordially received by the Governments and have been the objects of enthusiastic demonstrations of sympathy on the part of student and workmen associations and also on the part of the newspapers and the people in general.

PAN AMERICAN MASS.

A Thanksgiving Day mass was held on November 30, at St. Patrick's Catholic Church, in Washington, and was attended by all ambassadors and ministers of the various American Republics, as well as by the Secretary of State of the United States and other Cabinet officials, and men prominent in public life. Bishop William T. Russell, who originated the custom of holding the Pan American mass on Thanksgiving Day when he was rector of the church, preached the sermon.



THE ALEXANDER GRAHAM BELL MONUMENT AT BRANTFORD, ONTARIO, CANADA.

A splendid tribute to Dr. Alexander Graham Bell, the famous inventor of the telephone, was paid by the Canadian people when, on October 21, 1917, the above beautiful monument was unveiled at Brantford, Ontario. The Dominion Parliament, provisional legislature, the cities of Toronto, Montreal, Quebec, and others, the county of Brant and town of Brantford, as well as public-spirited citizens of Canada generally, contributed to the fund of \$54,000 raised by voluntary subscription for the monument. The design shows at the sides two heroic figures in bronze representing humanity sending and receiving messages, while the large bronze panel, said to be the largest ever cast, depicts in relief Man discovering his power to transmit vocal sounds through space, a symbolic figure of Intelligence and three floating figures representing Knowledge, Joy, and Sorrow. The foundations, steps, and pedestals are of granite. The Duke of Devonshire, the Governor General of Canada; Sir Robert Borden, president of Canada; W. F. Cockcroft, president of the Alexander Graham Bell Memorial Association, and many other noted citizens of the Dominion were in attendance and participated in carrying out the idea. The unveilings exercises, The guest of honor, Dr. Alexander Graham Bell, was present, accompanied by his wife, daughters, other relatives, and close personal friends, who had made a special journey to Canada to be present upon the occasion.



BOOK NOTES

The Danish West Indies: Under company rule (1671-1754) with a supplementary chapter, 1755-1917. By Waldemar Westergaard, Ph. D. With an introduction by H. Morse Stephens, M. A. Litt. D. (Harvard). New York, The Macmillan Co., 1917. xxiv, 359 p. Illus. Maps. 8°. Price, \$2.50.

Along the Pacific by Land and Sea. Through the Golden Gate. By C. W. Johnston. Chicago, Rand McNally Co., 1916. ix, 259 p. 8°. Price, \$1.25.

The Mexican Problem. By Clarence W. Barron. With introduction by Talcott Williams, LL. D. Boston and New York, Houghton Mifflin Co., 1917. xxv, 136 p. Illus. Map. 8°. Price, \$1.

El Supremo: a Romance of the Great Dictator of Paraguay. By Edward Lucas White. New York, E. P. Dutton & Co., 1916. x, 700 p. 8°. Price, \$1.90.

The Effects of Wars and Revolutions on government securities, external and internal. By E. Kerr, New York, William Morris Imbrie & Co., 1917. 131 p. 8°.

The Cane Sugar Industry: Agricultural, manufacturing, and marketing costs in Hawaii, Porto Rico, Louisiana, and Cuba. Washington, Bureau of Foreign and Domestic Commerce, 1917. 462 p. 8°. [Miscellaneous series No. 53.] Price, 50 cents.

Markets for Agricultural Implements and Machinery in Chile and Peru. By Frank H. von Motz, special agent. Washington, Bureau of Foreign and Domestic Commerce, 1917. 48 p. 8°. [Special agents series No. 142.] Price, 5 cents.

Methods of Computing Values in Foreign Trade Statistics. By J. J. Kral, translator. Washington, Bureau of Foreign and Domestic Commerce, 1917. 23 p. 8°. [Miscellaneous series No. 59.] Price, 5 cents.

Markets for Agricultural Implements and Machinery in Brazil. By Frank H. von Motz, special agent. Washington, Bureau of Foreign and Domestic Commerce, 1917. 59 p. Illus. 8°. [Special agents series No. 140.] Price, 10 cents.

Markets for Construction Materials and Machinery in Cuba. By W. W. Ewing, special agent. Washington, Bureau of Foreign and Domestic Commerce, 1917. 61 p. 8°. [Special agents series No. 139.] Price, 10 cents.

South American Markets for Fresh Fruits. By Walter Fischer, special agent. Washington, Bureau of Foreign and Domestic Commerce, 1917. 163 p. Illus. 8°. Price, 25 cents.

Foreign Tariff Notes. No. 23. Reprinted from Commerce Reports, October December, 1916. Washington, Bureau of Foreign and Domestic Commerce, 1917. pp. 53-92. 8°.

The American Fertilizer Hand Book, 1917. The standard reference book and directory of the commercial fertilizer industry and allied trades . . . Philadelphia, Published by Ware Bros. Co., 1917. 4°. 1 vol. Price, \$1.

Markets for Construction Material and Machinery in Venezuela. By W. W. Ewing, special agent. Washington, Bureau of Foreign and Domestic Commerce, 1917. 57 p. 8°. Price, 10 cents. [Special agents series No. 144.]

Official Report of the Fourth National Foreign Trade Convention. Held at the William Penn Hotel, Pittsburgh, Pa., January 25, 26, and 27, 1917. . . . New York. Issued by the secretary National Foreign Trade Convention Headquarters, 1917. xxxiii, 587 p. 8°. Price, \$1.50.

Plano de Asunción. [Asunción]. Edición: Klug & Marés, S. A. Escala 1:10,000. Size, 17 by 25 inches. Price, 20 cents gold.

SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED UP TO NOVEMBER 15, 1917.¹

Title.	Date.	Author.
ARGENTINA.		
Projected law of licenses.....	1917, Sept. 7	W. H. Robertson, consul general, Buenos Aires.
Exports for the first 8 months of 1917.....	Sept. 15	Do.
Business conditions.....	Sept. 25	Do.
BRAZIL.		
Market for automobile and motor trucks.....	Aug. 28	S. T. Lee, consul, Rio Grande do Sul.
Practical suggestions to exporters.....	Sept. 3	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Industrial Exposition.....	Oct. 1	Chas. L. Hoover, consul, Sao Paulo.
Packing houses in Minas Geraes.....	Oct. 4	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Packing of American tin-plate shipments.....	Oct. 5	Do.
Port works at Rio Grande.....	Oct. 15	Do.
North American Copper Co. branch.....	Oct. 16	Do.
CHILE.		
Impossibility of securing official trade statistics of Punta Arenas for 1916.....	Aug. 25	D. J. D. Myers, consul, Punta Arenas.
Tax on stamped paper and revenue stamps.....	Sept. 25	L. J. Keena, consm. general, Valparaiso.
Steamship line between Chile and Brazil.....	Oct. 3	Do.
COLOMBIA.		
Commerce and industries for 1916.....	Sept. 20	C. L. Guyant, consul, Barranquilla.
COSTA RICA.		
National Exposition.....	Sept. 22	B. F. Chase, consul, San Jose.
CUBA.		
Construction work.....	Aug. 24	G. B. Starbuck, consul, Cienfuegos.
Rubber goods manufacturing.....	Sept. 24	L. A. Christy, vice consul, Havana.
DOMINICAN REPUBLIC.		
New customhouse for Puerto Plata.....	Sept. 18	A. McLean, consul, Puerto Plata.
Export taxes.....	Sept. 20	Do.
Newspaper and publishing business.....	Sept. 21	C. S. Edwards, consul, Santo Domingo.
Market for automobiles in Santo Domingo.....	do.....	Do.
Construction work in Santiago.....	Sept. 25	A. McLean, consul, Puerto Plata.
Bids for electric light in Santo Domingo.....	Sept. 23	C. S. Edwards, consul, Santo Domingo.
Importation of cotton seed prohibited except from United States.....	Sept. 26	Do.
Market neglected by United States manufacturers.....	Sept. 27	A. McLean, consul, Puerto Plata.
Need of sewers.....	Sept. 27	Do.
New Chamber of Commerce, Puerto Plata.....	Oct. 2	A. McLean, consul, Puerto Plata.
Opening for windmills.....	do.....	Do.
Ice plants.....	Oct. 7	Do.
Hippodromes for Puerto Plata and Santiago.....	do.....	Do.
New Year's greeting to Latin American clients.....	Oct. 10	Do.
Market for plumbing supplies.....	Oct. 12	C. S. Edwards, consul, Santo Domingo.
Highway across the Republic.....	Oct. 16	A. McLean, consul, Puerto Plata.
New hospitals.....	Oct. 19	Do.
Monetary system.....	do.....	Do.

¹ This does not represent a complete list of the reports made by the consular officers in Latin America, but merely those that are supplied to the Pan American Union as likely to be of service to this organization.

Reports received up to November 15, 1917—Continued.

Title.	Date.	Author.
ECUADOR.		
Possible commercial arbitration agreement between the United States and Ecuador.....	Oct. 14.....	F. W. Goding, consul general, Guayaquil.
Cacao disease.....	Oct. 16.....	Do.
New fire insurance law.....	Oct. 25.....	Do.
HONDURAS.		
Public utilities and disposal of garbage.....	Sept. 19.....	F. J. Dyer, consul, Tegucigalpa.
New plow for Spanish America.....	Sept. 27.....	Do.
MEXICO.		
Value of exports for three months.....	Sept. 30.....	Wm. W. Canada, consul, Vera Cruz.
New American school of Tampico.....	Oct. 1.....	C. I. Dawson, consul, Tampico.
Export duties on metals.....	Oct. 2.....	L. K. Zabriskie, consul general, Mexico City.
Construction work.....	Oct. 9.....	Do.
Purchase of 50 tractors.....	Oct. 12.....	Do.
Bridge between El Paso and Juarez.....	Oct. 16.....	Do.
Electric railroad from Puebla to Tlaxcala.....	do.....	Do.
Export tax on petroleum products.....	Oct. 17.....	Do.
Increased trainway rates.....	Oct. 18.....	Do.
Modification of petroleum values.....	Oct. 19.....	Do.
Market for electric-light meters.....	do.....	G. C. Woodward, consul, Matamoros.
Market for shoes.....	Oct. 20.....	Do.
Scarcity of Mexican currency.....	do.....	Do.
Railroad through State of Chiapas.....	do.....	L. K. Zabriskie, consul general, Mexico City.
Petroleum exports for September.....	Oct. 22.....	Do.
Board of Agriculture of Jalisco.....	Oct. 25.....	J. R. Stillman, consul, Guadalajara.
Construction work.....	Oct. 27.....	L. K. Zabriskie, consul general, Mexico City.
Iron ore for sale.....	Oct. 29.....	J. R. Stillman, consul, Guadalajara.
Salt beds near Matamoros.....	Oct. 30.....	G. C. Woodward, consul, Matamoros.
Passenger rates increase.....	do.....	L. K. Zabriskie, consul general, Mexico City.
New Pacific Steamship service.....	do.....	Do.
Railroad service in northern Mexico.....	Nov. 7.....	E. A. Dow, consul, Ciudad Juarez.
PANAMA.		
Button factory.....	Sept. 16.....	A. G. Snyder, consul general, Panama City.
Ice and cold storage plant.....	Sept. 26.....	J. D. Preher, consul, Colon.
Balsa wood in Colon consular district.....	Oct. 3.....	Do.
Largest apartment house in Colon.....	Oct. 24.....	Do.
PERU.		
Annual report on the commerce, industries, and finances.....	Sept. 1.....	Wm. W. Handley, consul general, Lima.
URUGUAY.		
Work on Montevideo shipyard suspended.....	Aug. 21.....	Wm. Dawson, Jr., consul, Montevideo.
Exportation of twine prohibited.....	do.....	Do.
Annual report on commerce and industries.....	Sept. 15.....	Do.
Receipts and deficit.....	Sept. 25.....	Do.
Antiliceust campaign.....	Oct. 3.....	Do.
Permanent electrical exhibit at Montevideo.....	Oct. 6.....	Do.



ARGENTINE REPUBLIC

Within a short time the series of WIRELESS TELEGRAPH STATIONS planned by the Navy Department of the Argentine Government to place the southern part of the Republic in wireless communication with the rest of the country will be completed. The only stations of the series referred to not yet ready for service are those which are being erected at San Julian, Territory of Santa Cruz, and at Punta Delgada, Territory of Chubut. The first of these was to be opened for use on the 20th of the present month, and the other installation, which will be on the lighthouse at Punta Delgada, will be completed as soon as the material can be brought from Buenos Aires. Each of these stations has a reach of 500 kilometers, and they, together with the stations in operation along the Atlantic Coast as far as Tierra del Fuego are permanent installations.—The Department of Agriculture has intrusted to a commission of employees the organization of an EXPOSITION OF INDUSTRIAL EXHIBITS, which it is proposed to hold on Florida Street, Buenos Aires. The object of the exposition is not only to show samples of the industrial products of the Republic, but is also to acquaint the inhabitants of the metropolis with these products. Preliminary steps have been taken looking to the erection by the Government of a building on Saenz Peña and Florida Streets, Buenos Aires, to be used as a permanent structure for exhibits of industrial products.—According to a report of the Director of the Agricultural Museum of the Rural Argentine Society the competitive EXHIBITS OF BARLEY for brewing purposes recently made in the national capital, met with the hearty approval of the growers of this cereal as well as of the manufacturers of beer and had the effect of encouraging the growers to produce a better grain than heretofore. The Quilmes brewery in Buenos Aires has distributed choice barley seed to 300 farmers and is conducting an information bureau for the purpose of assisting agriculturists in growing this cereal in such a way as to obtain the best results. Prizes were awarded for the best exhibits, and buyers were found for choice barley at 25 centavos above the current market prices.—An AUTOMOBILE TRIP was recently made from Puerto Madryn, Territory of Chubut, via Bahia Blanca, to Buenos Aires in five days, the distance covered aggregating about 2,000 kilometers, or an average run of 400 kilometers (249 miles) per day.—A permanent national COMMITTEE OF SCIENTIFIC AND TECHNICAL INSTITUTIONS was organized in Buenos Aires on September 29 last, delegates from more than 20 institutions participating in the proceedings.—The BUDGET COMMISSION of the national capital estimates the total expenses of the municipi-

pality for the fiscal year 1918 at 39,623,560 pesos, currency (paper peso = \$0.4245), and the total receipts at 40,054,060 pesos, currency.—The RURAL ARGENTINE SOCIETY of Buenos Aires has elected Dr. Joaquín S. de Anchorena, President of the organization to take the place of Dr. Julio Pueyrredon, deceased.—Justice Ramón Montero Paullier, of the Supreme Court of Uruguay in Montevideo, has presented the Library of the College of Lawyers, located in the Palace of Justice, Buenos Aires, with a complete collection of the URUGUAYAN CODES.—According to a report of the BOARD OF PUBLIC CHARITIES the number of persons cared for in the hospitals and asylums connected with that institution in 1916 was 19,116. The receipts of the board during the year referred to amounted to 4,757,882 pesos, currency. The proposed budget of the Board of Public Charities for 1918 amounts to, in round numbers, 4,000,000 pesos currency.—The CELEBRATION OF THE DISCOVERY OF AMERICA was held throughout the Argentine Republic on October 12 last under the name of "Fiesta de la Raza."—The Bureau of Commerce and Industries has submitted to the Department of Agriculture a detailed report concerning the MANUFACTURE OF PAPER in the Republic. The report also contains a minute study of the materials available in Argentina for the manufacture of paper.—COAL from the recently discovered Neuquen deposits, Territory of Chubut, has been tried as a fuel by the State railways and gave excellent results. The coal beds referred to are reported to cover an extent of more than 20 kilometers.—The EXPORTS OF CORN AND WHEAT from the Argentine Republic during the first nine months of the present year amounted to 792,506 and 743,572 tons, respectively.—The proposed BUDGET of the Argentine Government for 1918 estimates the receipts at 382,402,047 pesos, currency, and the expenditures at 382,386,579 pesos, currency. The estimated expenditures for 1918 are 10,638,228 pesos, currency, less than those of the previous year.—The board of directors of the Argentine Industrial Union in Buenos Aires has approved the bases, subjects, and program of the SECOND INDUSTRIAL CONGRESS which is to meet in Buenos Aires on September 25, 1918.



For several years the congestion of freight and the inadequate service on the Arica-La Paz Railroad has been a serious handicap for mining companies operating in the region traversed by the road. Recently the Chilean Senate voted a sum of \$500,000 for further equipping this road with NEW ROLLING STOCK which, when acquired, wil

make the freight and passenger service better than ever before. The Arica-La Paz Railroad, as will be recalled, was constructed in accordance with an international agreement between Bolivia and Chile, and was opened to traffic a year or two before the outbreak of the great war. The scarcity of railway supplies and inadequate shipping facilities are largely responsible for the shortage of cars and locomotives; but with the action above noted, it is hoped to improve the service at an early date.—Señor Alejandro del Carpio has been chosen RECTOR OF THE UNIVERSITY OF TARIJA. The selection of this distinguished Bolivian educator for the further extension of learning in the Tarija, in the southern region of Bolivia, has given general satisfaction. He has long been prominent in educational work in La Paz and other parts of the Republic.—The nomination of Dr. Placido Sanchez as MINISTER OF BOLIVIA IN ARGENTINA, which was announced recently, has been received with special satisfaction. One of the prominent newspapers of Buenos Aires, La Epoca, has sent a telegram expressing the pleasure of Argentine people in general at the appointment of this well-known Bolivian statesman to the Argentine mission.—Officials of the Antofagasta & Bolivia Railroad are being congratulated on the excellent DINING CAR SERVICE provided for the members of several foreign delegations who journeyed over this railroad to La Paz on the occasion of the recent inauguration of Bolivia's new President. From time to time many travelers note the good food supplied on dining cars of this road, which traverses one of the most arid regions of South America.—The NEW RAILWAY line from Viacha to La Paz, a distance of about 20 miles, was opened to traffic in September last. This link now completes the route of the Antofagasta & Bolivia Railroad actually into the Bolivian capital. Heretofore the trains of this road entering La Paz have used the Guaqui-La Paz tracks from the junction point, Viacha. The length of the main line from Antofagasta to La Paz is, including the new branch, about 720 miles.—The Minister of Industry has granted certain privileges for utilizing the WATERS OF "EL PARAISO," Rio Mulatos, to Señor Ruperto Leiton. The latter proposes to exploit these waters and will import certain machinery for that purpose. At present large quantities of mineral and table waters are annually imported by Bolivia, but with the development of the above springs it is believed that the home product will largely replace imported waters, at least a new industry is to be given a trial.—Construction work on the POTOSI-SUCRE RAILROAD is progressing in a satisfactory manner, according to the monthly report of the director of works. — Bolivian newspapers report considerable agitation relative to the question of ALCOHOLIC LIQUORS. While prohibition in Bolivia may be a long distance away, there are many who believe in restricting the sales or in curtailing supplies of various kinds of liquors.



BRAZIL

A bill to restrict or PROHIBIT EXPORTS OF CEREALS has been introduced into Congress by Dr. Barbosa Lima, Secretary of the Finance Committee of the Federal Chamber of Deputies. Dr. Vieira Souto, a noted Brazilian economist and member of Congress, made, in representation of the National Society of Agriculture, a notable address on this subject at one of the sessions of the National Cereals Conference which met recently in Corytiba.—An appeal to the people of Brazil, in the name of the Relief Committee of the Commercial Association of Rio de Janeiro, to secure AID FOR THE PEOPLE OF BELGIUM, signed by Dr. Nilo Peçanha, Minister of Foreign Relations, and Senator Ruy Barbosa, has been telegraphed to the governors of the States and to the Prefect of the Federal District.—Prof. Basilio de Magallhaes is preparing for publication in Vol. LXXXI of the Review of the Historical Institute the originals of the "EPHEMERIDES BRASILEIRAS" by the late Rio do Branco.—Dr. Amaro Cavalcanti, Prefect of Rio de Janeiro, has taken steps, in cooperation with the packing houses and meat dealers in Rio de Janeiro to prevent BEEF being sold at more than a reasonable price in the Federal Capital.—A bill has been introduced into the Chamber of Deputies of the Brazilian Congress providing for the founding of an AMERICAN INTERPARLIAMENTARY UNION, with headquarters at Rio de Janeiro, composed of special missions representing each country, with the object of defending principles of harmony and solidarity among the peoples of the Western Hemisphere.—According to press reports the Department of Finance of the Government of Brazil recently remitted £10,000,000 (£ = \$4.8665) on account of the FOREIGN DEBT of the Republic up to 1916, inclusive.—EXPORTS OF FROZEN MEATS from packing houses in Brazil continue to increase. This trade, which was begun in 1914 by a trial shipment of 1,415 kilos (kilo = 2.2046 pounds), valued at 1.1 contos (conto = \$270) currency, increased in three years to such an extent as to become one of the principal export products of the country. In 1915 Brazil exported 8,514 metric tons (metric ton = 2,204.6 pounds) of refrigerated meats, valued at 6,121 contos, paper; in 1916 the exports of this article rose to 33,661 metric tons, valued at 28,192 contos, and during the first seven months of 1917 the exports of frozen meats amounted to 39,622 metric tons, valued at 35,674 paper contos. The chief purchasers were Italy, France, England, and the United States.—During the years 1914 to 1916, inclusive, the Central Railway of Brazil transported 983,831 tons of MANGANESE ORE, 248,758 tons of which were hauled in 1914, 305,770 tons in 1915, and 429,303 tons in 1916.

During the first quarter of 1917 the railway in question hauled 261,706 tons.—The State of Espirito Santo, which began the cultivation of cotton commercially in 1915 with a production of 490 kilos, increased the quantity grown in 1916 to 21,653 kilos, and estimates have been made that the crop of 1917 will be 80,000 kilos. The cotton factories in the State referred to consumed in 1916, 112,742 kilos of raw cotton, and during the first quarter of 1917, 70,888 kilos. These figures show that in each of the years referred to it was necessary to import a considerable quantity of raw cotton to supply the demands of the cotton factories of the State. The State of Espirito Santo is not only encouraging the cultivation of cotton upon a much larger scale than heretofore, but has taken steps to introduce the growing of cereals especially upon the high table-lands of the commonwealth. The State of Espirito Santo lies between Bahia on the north, Minas Geraes on the west, the Atlantic Ocean on the east, and the State of Rio de Janeiro on the south. Its area is 44,839 square kilometers. The State is noted for its rich forests containing valuable woods. Of late years it has received considerable European immigration, is very progressive, and its agricultural wealth is being rapidly developed. The northern part of the State, with Sao Matheus as a center, is noted for its coffee and mandioca plantations. Victoria, the capital, situated on the Bay of Espirito Santo, has a good port and a large maritime trade.—The TWENTIETH CONGRESS OF AMERICANISTS, which was scheduled to meet in Rio de Janeiro in 1918, has been postponed until 1919, and advices are to the effect that there is a possibility of a further postponement.



The President of the Republic has approved the by-laws of the RENGO ELECTRIC TRAMWAY CO. and has authorized that corporation to do business in the Republic. This company proposes to construct and operate an electric tramway between Rengo station, Department of Caupolicán, and La Isla, and to build and operate such branches as it may deem expedient.—The Department of Industry has approved plans and estimates prepared by the Bureau of Public Works for the construction of the MELADO IRRIGATION CANAL, Province of Linares, with a capacity for irrigating 43,000 hectares of land.—Belisario Torres, a Chilean philanthropist recently deceased, bequeathed 500,000 pesos (peso = \$0.25) to be used in the establishment of a HOUSE FOR STUDENTS. Ground has been acquired and construction work begun on the building, which

will be large enough to comfortably lodge pupils from the Provinces who take the high-school technical course. The sum of 100,000 pesos of this fund will be put out at interest, and the proceeds used to send technical students abroad to complete their education.— During the latter part of September last the NEW SAVOY HOTEL, installed in one of the finest and most centrally located buildings in the City of Santiago, was opened to the public. The hotel is modernly equipped and is up to date in every respect.—The press of Santiago announces that the National Government has granted an exclusive concession to Rodolfo Cavada for the INDUSTRIAL USE OF A VEGETABLE PRODUCT called in Chile "barba de viejo" (Old man's beard). This plant grows extensively in the region comprised between the Linari and Villarrica Rivers near the coast, and produces a fibrous substance used for mattresses, pillows, packing, the manufacture of rope, etc., while the by-products are used as an agricultural fertilizer.—A law has been promulgated authorizing the condemnation of such lands as may be necessary for use in the construction of AQUEDUCTS in a number of the cities of the Republic, and appropriating 17,835,000 pesos, paper, for this work.—A law has been enacted authorizing the Government to negotiate a LOAN of 20,000,000, Chilean gold pesos (gold peso = \$0.365), the proceeds of which are to be used in improving the equipment of Government railways and in the construction of new lines. Of this amount 13,200,000 gold pesos are set aside to be expended on the North Central Railway system.—With the object of encouraging the cultivation of OLIVE trees and the establishment of groves that will produce fruit in sufficient quantities for the manufacture of olive oil to supply domestic needs, the Government has placed on sale 18,000 olive plants from the Valparaiso, San Fernando, and Linares nurseries, and recommends that similar action be taken by the agricultural schools at Santiago, Talca, and Chillan. Chile imports annually olive oil to the value of three million gold pesos.— A number of IMPORTANT CONGRESSES have recently been held in Santiago, among which may be mentioned the First National Congress of Public Charity, the Pan American Dental Congress, and the First National Carpenters' Congress.—A MINERALOGICAL MUSEUM has recently been established at Arica, Province of Tarapaca. In addition to the exhibits of minerals and salts, agricultural products and other interesting objects will be displayed.— The President of the Republic has been authorized to establish four LEGATIONS in Latin America, one in Mexico, one in Colombia, one in Cuba and Venezuela, and one in Uruguay and Paraguay.— THE BUDGET OF EXPENSES of the Chilean Government for 1918 amounts to 201,686,480 pesos, paper (paper peso = \$0.245), and 65,341,171 pesos, gold, (gold peso = \$0.365).



COLOMBIA

The President of the Republic has authorized the Municipal Council at Medellin to contract a loan of \$50,000, gold, the proceeds of which are to be used to purchase the TELEPHONE installation of that city.—By instruction of the Central Board of Hygiene the Municipal Council of Cartagena has issued an order for the establishment of a MUNICIPAL ANTI-TUBERCULOSIS DISPENSARY in that city.—Press reports are to the effect that Pearson & Son of London estimate the cost of the work for the IMPROVEMENT OF THE CITY OF CARTAGENA, including sewerage, paving of streets, etc., at \$3,836,890, gold. The statement is made, however, that some of the improvements are not urgently needed, and that the most necessary ones could be made at a cost of \$1,033,280.—About 30 miles to the south of the town of Mocoa, Department of Cauca, HOT SPRINGS have been discovered flowing from the crevices of rocks near the foot of a mountain. The temperature of the water from the different crevices varies from quite cold to 27° C. The waters are reported to have medicinal properties, and it is believed that the springs will become a great bathing resort.—According to the Statistical Bulletin of the Department of Valle, the population of that Department is 236,155.—Dr. Emilio Jaramillo of Medellin continues to prepare valuable formulas for the manufacture of CHEMICAL PRODUCTS of large consumption in the Republic entirely out of materials found in the country.—The STOCK CENSUS of the Department of Bolivar for 1916 shows stock as follows: Asses, 92,131, valued at \$1,842,620, gold; horses, 137,876, valued at \$5,515,040; cattle, 1,326,000, valued at \$33,125,810, goats, 20,823, valued at \$20,823; and hogs, 183,035, valued at \$1,098,210. In December, 1917, the THIRD NATIONAL MEDICAL CONGRESS will meet in Cartagena. The Congress offers for the best unpublished work the Manuel Forero prize consisting of a gold cup and cash to the amount of \$200, gold.—The Caribbean Shipping Co., of New York, has established a LINE OF STEAMERS between the Atlantic ports of Colombia and the American metropolis.—An AGRICULTURAL SOCIETY was organized at Tunja in September last with the object of encouraging the development of the agricultural resources of the Department of Boyaca.—A corporation with a capital of \$80,000, gold, has been organized at Medellin, under the name of PHARMACEUTICAL AND DENTAL UNION to engage in the importation and sale of dental supplies and the manufacture and sale of pharmaceutical specialties.—In 1916 the Department of Antioquia received from the Department of Bolivar 44,003 head of CATTLE, valued at \$1,690,211, gold, as compared with 45,326

head in 1915, valued at \$1,640,541.—Under a decree of the Department of Public Works a commission has been appointed to study the route of the URABÁ RAILWAY.—According to a recent message of the President to the National Congress the REVENUES of the nation from March to July, 1917, amounted to \$5,708,369, gold, as compared with \$7,246,464, gold, collected during the same period of the previous year.—In 1916 the IMPORTS OF RICE through the principal customhouses of the Republic aggregated 8,869,592 kilos, of which 4,667,652 kilos entered through the Port of Barranquilla, 3,076,795 through Cartagena, 632,709 through Santa Marta, and the remainder through the ports of Buenaventura, Riohacha, Tumaco, and Cúcuta.



According to press reports the two COCONUT OIL EXTRACTING MACHINES ordered by the Treasury Department will soon arrive in Costa Rica. The vegetable oil industry is a very promising one, inasmuch as this product can be substituted for lard in the preparation of food. The Government proposes to set up one of these machines in Limón and the other in Puntarenas and to sell them at cost so as to encourage production.—The INDUSTRIAL AGRICULTURAL EXPOSITION and the Stock Show of the Atlantic Coast District were held at Limón from the 12th to the 14th of October last, and were well attended. Some 200 exhibitors took part in the Exposition and displays were made of a large number of industrial articles manufactured in the National Capital and in other parts of the country. Many agricultural products were also on exhibition, and these showed in a striking manner the richness and fertility of the soil of the Republic.—With the object of ascertaining approximately the FOOD RESOURCES OF THE REPUBLIC, the President proposes to maintain in each of the offices of the Rural Guard, and in such other places as he may deem expedient, crop registers in which all persons engaged in agriculture shall be required to give full particulars of the crops planted and harvested. Data recently compiled show that the rice and bean crops of Costa Rica for 1917 are sufficient to supply the domestic needs of the nation and leave a surplus for export.—An executive decree has been issued requiring instruction to be given in the principal schools of the Republic in the WEAVING OF HATS from the pita or agave fiber.—A contract has been made with the Department of Promotion (Fomento) to install in Costa Rica within the next two years machinery for the extraction of paper pulp, and to establish within a year thereafter a PAPER FACTORY which will use material produced in the country

in the manufacture of paper. The factory proposes to produce within a term not to exceed five years after its establishment, all the paper that may be necessary for use in the Republic, and obligates itself to pay to the Government the sum of 2,500 colones (Colon = \$0.4653) should it fail to do so.—On the occasion of the celebration of the 96th anniversary of National Independence on September 15 last, the new building of the Juan Rafael Mora School in the City of San José was opened to public use by holding therein a NATIONAL EXPOSITION OF DECORATIVE AND INDUSTRIAL ARTS, which remained open until the 30th of the same month. This exposition, in accordance with a decree of March 30 last, is to be held annually for the purpose of encouraging the development of this branch of industry in the Republic.—The National Congress has enacted a law governing the utilization of the waters of the Republic in the production of ELECTRIC light and power.



The estimated production of the Cuban SUGAR crop for the year 1916-17 is 3,019,936 tons, as compared with 3,006,624 tons in 1915-16. The maximum price of raw sugar has been established by an executive decree at 4½ cents per pound wholesale, and 5½ cents per pound retail; refined sugar is 7½ cents per pound wholesale, and 8½ cents retail. The price of loaf sugar is fixed at 9 cents per pound retail. It is understood that the term wholesale means not less than 300 pounds. The decree makes clear that no sugar is to be exported to neutral countries, and that the prices mentioned are subject to change by the Committee of National Defense. It is reported that not less than 4,000 Spaniards will soon arrive in Cuba to take part in the coming sugar harvest. The Department of Agriculture has recently inspected a number of the mountainous regions of the districts of the Province of Oriente with a view of obtaining timber for the market and using the cleared space for the growing of sugar cane.—On November 10 last new POSTAGE RATES on first-class matter became effective in the Republic of Cuba as follows: Letters and other sealed correspondence or packages, 3 cents per ounce or fraction thereof; postal cards, 2 cents each. These rates apply on mail to the United States and its possessions, with the exception of the Canal Zone. The registration fee is fixed at 10 cents.—Plans for increasing the war resources of the Republic of Cuba include the appointment by the President of a Cuban Council of National Defense, the establishment of a system of WAR FARMS and agricultural zones under the supervision of the Council referred to, and the cultivation of needed foodstuffs under the control of

the Government. It is expected that this will solve Cuba's food situation and release steamers for the transportation of the sugar crop. The importation and exportation of all foodstuffs is placed in the hands of the Cuban Government, as well as trade in petroleum and its products, coal, sugar bags, and other necessities.—According to "El Dia" (The Day), a daily newspaper of Habana, a CREMATION PLANT has been established in the National Capital. The erection of this plant and its acceptance by the Board of Health of the Government of Cuba was due largely to the efforts of Dr. Cándido Hoyos who has advocated for 15 years the burning of corpses as a humanitarian and sanitary measure.—A GOLD MINE has been denounced on the Julia plantation, province of Matanzas. The gold ore is reported to have been found there while making excavations for building.—MATERNITY HOSPITALS are to be established at various points in Cuba, the Province of Pinar del Rio having been chosen for the first hospital. According to press reports the Government has \$300,000 on hand for the erection and equipment of these hospitals.—In order to facilitate the MARKETING OF THE SUGAR CROP the Cuban Government proposes to lend \$5,000,000 to the railways of the Republic.—The Cuban authorities are reported to have decided to place strong restrictions on the IMMIGRATION OF CHINESE, permitting only merchants and agriculturists to enter the country. Chinese laborers contracted by sugar planters will be admitted in strict accordance with the new immigration law.—The Cuban RED CROSS SOCIETY, of which Mrs. Menocal, wife of the President of the Republic is the president, proposes to raise \$1,000,000 for its work in Europe. A hospital is to be established in France equipped with at least 100 beds and having a full complement of Cuban doctors and nurses.—The Isle of Pines Appeal recommends the production of HONEY on a large scale in that part of the Republic, inasmuch as flowers bloom there the year round and climatic conditions are most favorable for successful bee-keeping.—The Morro WIRELESS tower is to be transferred to the Isle of Pines. The new wireless station near the National Observatory, Habana, has a range of 3,000 miles and will soon be completed and ready for operation.



The DOMINICAN CLAIMS COMMISSION of 1917 has been empowered to receive, investigate, and adjust all outstanding claims against the Dominican Republic which had their origin after July 1, 1904, and prior to November 29, 1916, but no claim shall be considered by the Dominican Claims Commission of 1917 if such claim

in whole or in part was included in or adjusted or rejected under the plan of adjustment made to conform with the terms of the American-Dominican Convention of February 8, 1907.—The HIGH SCHOOLS (Segunda Enseñanza) of the Republic have divided their work for the school year 1917-18 into six courses, numbered from 1 to 6, respectively. The completion of the first three and one of the last three courses entitles the student to a diploma. Pupils to whom diplomas have been issued and who complete the remaining two courses are given teacher certificates.—The STAMP LAW of 1910 has been amended so that individuals or firms manufacturing articles within the Dominican Republic upon which a stamp tax is levied and upon which such tax has been paid shall be entitled to a refund of the amount of the stamp tax so paid when such manufactured articles are exported to a foreign country, provided that no such refund shall be paid if the amount of the stamp tax represented by any single exportation amounts to less than \$10, nor unless the articles are exported within one year from the date of manufacture, nor unless the prescribed landing certificate is presented with the claim for refund within six months from the date of exportation. The same law prescribes that every person, firm, society, or corporation that imports or is engaged in the manufacture of any article or articles that are subject to the stamp tax shall keep in his factory or office such records relating to the purchase of raw materials, quantity manufactured, sales, imports, etc., as may be required by the Director General of the Stamp Office.—The Dominican Republic, according to information contained in the "Listin Diario," a daily newspaper of the City of Santo Domingo, possesses coastal ZONES RICH IN FISH, among which may be mentioned the waters of the Beata Islands and of the Samaná Bay, in addition to an extensive coast region suitable at numerous points for the development of the fishing industry. The fishing waters of the coast contain one of the great storehouses of undeveloped wealth of the country and could be made to yield an enormous supply of cheap and palatable sea food.—An organization entitled "Compañía Anónima de Explotaciones Industriales" (Joint Stock Company of Industrial Exploitations) has been organized in the City of Santo Domingo with a capital of \$500,000, American gold, divided into 5,000 shares of \$100 each. All of the shares have been subscribed and \$125,000 paid in. The company proposes to engage in the purchase and sale of uncultivated lands and plantations, the cultivation of sugar cane and other staple products, the manufacture of sugar, the raising of stock, etc. The president of the company is Juan B. Vicini, and the secretary and auditor, Angiolino Vicini.—It is estimated that the Province of Seybo has 5,000,000 CACAO trees of which 4,000,000 are bearing.—Steps have been taken for the installation of a

HYDRO-ELECTRIC light and power plant at Seybo of sufficient capacity to furnish light and power to the municipality of Seybo and the immediate vicinity.



Preliminary steps have been taken by a number of Ecuadorian capitalists and business men to organize a national petroleum company. The chairman of the organizing committee is Dr. Carlos Viteri, and the Secretary is Eduardo Blanco, both of Guayaquil. This corporation is to be called, "La Sociedad Anónima Petrolífera Nacional" (The National Jointstock Petroleum Co.) According to recent estimates a thorough exploitation of the PETROLEUM DEPOSITS OF ECUADOR would bring into the National Treasury an annual revenue of 4,000,000 sures (sucro = \$0.4867). The petroleum company referred to proposes to confine its operation for the present to the Santa Elena oil deposits where crude petroleum is found in paying quantities, and later to extend the scope of its activities to other parts of the Republic. By introducing modern machinery and methods into these oil fields, it is believed that a development will be had similar to that of some of the Mexican petroleum zones. Santa Elena possesses a good climate, the oil wells are near the coast and excellent transportation facilities are available for the shipment of the product, which could be piped at a small expense to deep water, thereby enabling the oil to be loaded on to vessels quickly and at a minimum cost.—The Ecuadorian STEAM-SHIP COMPANY has been organized in Guayaquil with a capital stock of L500,000 (L = \$4.8665). The objects of the company, as stated in its prospectus, is the creation of a national merchant marine, the opening of the ports of the Galapagos Islands to unrestricted commerce, in so far as transportation facilities are concerned, and the encouragement of the development and exploitation of those islands. The headquarters of the company are at Guayaquil. One of the things it proposes to do is to purchase in the near future four vessels to engage in the coastwise trade and in the commerce between Ecuador and the Galapagos Islands.—A bill has been introduced into Congress proposing to levy an annual tax of one-half of a sucro (\$0.243) per head of cattle on hand on January 1, 1918, 1919, and 1920, the proceeds to be applied to the construction of the Sibambe to CUENCA RAILWAY.—The SOUTH AMERICAN BANK, a corporation recently organized in the city of Ecuador with a capital of 400,000 sures, divided into 4,000 shares of 100 sures (sucro = \$0.4867), has been authorized to establish its headquarters in the

Capital of the Republic and to operate branches at such places in the provinces as it may deem expedient. A recent statement of the four large banks of Ecuador, namely, the Commercial, the Pichincha, the Ecuador, and the Azuay, shows that they have a combined circulation of 11,783,620 sures, and cash on hand amounting to 14,329,828 sures gold and 1,002,464 sures silver.—The Secretary of the Treasury has been authorized to negotiate a LOAN of 100,000 sures with the Pichincha Bank of Quito for account of the consolidated debt.—The capital of the PUERTO BOLIVAR RAILWAY, according to an article published in "El Ecuatoriano," a daily newspaper of Guayaquil, is L600,000. Steps have been taken to modify the route of this railway as first surveyed. The Biblical coal deposits near which the railway in question is to pass, are being studied very carefully, as are also the Loja and Oriente regions. It is also proposed to complete this railway and open same to traffic to Cuenca by 1920, and to make this one of the principal features of the celebration of the hundredth anniversary of the independence of Cuenca. The railway will later be extended to Loja and Cañar.—According to statistics compiled by the Treasury Department of the Government of Ecuador the EXPORTS from the Republic in 1916 weighed 73,378,735 kilos and were valued at 36,151,629 sures (sucro = \$0.4867).—The total FOREIGN TRADE of Ecuador for the year 1916 amounted to 55,349,513 sures, represented by imports to the value of 19,197,884 sures, and exports of 36,151,629 sures. For the preceding year, 1915, the figures were: Imports, 17,300,707 sures; exports, 26,533,064 sures; total, 43,833,771 sures. Valuing the sucre at 48.6 cents (10 sures = L1), the foreign trade in figures of United States currency in 1916 was: Imports, \$9,330,171; exports; \$17,569,691; total, \$26,899,862. The figures for the preceding year were: Imports, \$8,408,143; exports, \$12,895,069; total, \$21,303,212. The increase in the year 1916 was: Imports, \$922,028; exports, \$4,674,622, or a total increase of \$5,596,650.



The "Diario de Centro América" (Central American Daily), a newspaper published in the City of Guatemala, states, in a general article on the wealth of the nation, that in normal times the COFFEE production of the Republic is, in round numbers, 1,050,000 quintales (quintals) of 101.4 pounds each, of which 200,000 quintals are consumed at home and 850,000 are exported. Estimating the value of a quintal of coffee at \$10 American gold, makes the total annual production worth \$10,500,000. The coffee tree grows best in Guate-

mala at elevations varying from 2,600 to 4,500 feet above the level of the sea, and on a soil rich in humus having a clay subsoil. On elevations of from 1,500 to 2,000 feet, the tree must be shaded to produce the best results. Coffee trees flourish in a temperature of from 65 to 85 degrees Fahrenheit. The banana plant is extensively used to shade the coffee trees during the first two years of their growth. Coffee in Guatemala ripens in October. The fruit or "cherry" is then gathered, and the outer shell and pulp removed. The bean is then washed and dried in the sun. Coffee in Guatemala is called "pergamino" (parchment), and *oro* (gold). Coffee in *pergamino* is the grain of coffee after the red pulp, which gives to it the appearance of a cherry, has been removed, but still retaining the inner white or parchmentlike covering. Coffee in *oro* is the grain of coffee after the parchmentlike covering has been removed.—The COMMISSION, which was accredited to the United States under an executive decree of August 22, 1917, for the purpose of further strengthening the cordial relations existing between the two countries, has returned to Guatemala. The Commission consisted of Licentiate Manuel Echeverría y Vidaurre, Manuel María Girón and Engineer Claudio Urrutia.—The CHOCOLATE FACTORY installed in the City of Guatemala by Aguirre and Duran, and which was closed during part of the present year, has recently been opened for business under the management of Genaro Estrada, jr.—Francisco Yzazi has been appointed CONSULAR AGENT of the Government of Guatemala at Tapachula, Mexico.—The Department of Fomento has authorized T. & R. Dávila of the City of Guatemala, to establish an AUTOMOBILE PASSENGER, FREIGHT, AND MAIL SERVICE between the National Capital and Antigua (Old) Guatemala, a distance of about 25 miles. The Government authorizes the concessionaries to import free of duty four automobiles, 30 tanks of gasoline, 20 barrels of oil, and numerous other articles connected with the establishment and operation of the automobile line.—*Guatemala Agricola* (Agricultural Guatemala) is the title of a new AGRICULTURAL MAGAZINE founded in the City of Guatemala by José V. Molina V., Ignacio Sáenz O, and A. Bauscarol, assisted by a corps of forty contributors. This publication proposes to cover the entire field of agriculture in such a manner that it will be easily understood by all its readers.—The total FOREIGN TRADE of Guatemala for the year 1916, according to the report of Sr. Don Rafael Ubico, Director General of Statistics, was \$19,177,180 United States gold, represented by imports to the value of \$8,539,294, and exports of \$10,637,886. The figures for the preceding year, 1915, were: Imports, \$5,072,476; exports, \$11,566,586; total, \$16,639,062. There was, therefore, an increase in imports for the year 1916 as compared with 1915, of \$3,466,818, and a decrease in exports of \$928,700, or a net increase in the foreign trade of \$2,538,118.



HAITI

A recent executive decree prescribes that the 1916-17 EXPENSE BUDGET of the Haitian Government, provided for in accordance with the law of December 2, 1915, shall be effective during the fiscal year 1917-18.—Le Matin, a daily newspaper of Port au Prince, is authority for the statement that Vincent B. Thommins, a citizen of the United States, has gone to Cerca la Source to work the GUANO deposits in that vicinity, where he proposes to extract 10,000 tons of this fertilizer.—Press reports from the Haitian capital are to the effect that the Government proposes to begin actively in the near future the REPAIR OF THE PRINCIPAL HIGHWAYS of the country, among which may be mentioned the wagon road from Port au Prince to St. Marc, the l'Artibonite highways, and the northern roads of the Republic, so that it is predicted that early in the coming year one may comfortably go in an automobile from the National Capital to the cape. The repair and maintenance of these roads in good condition is a factor which will contribute largely to the development of agriculture and of the industries of the country.—Dr. Justin Dominique has been appointed CONSUL GENERAL of Haiti at Kingston, Jamaica, and has taken possession of his post.—A recent executive decree approves the by-laws of the TRANS-OCEAN TRADING CO., a corporation organized at Port au Prince on September 29, 1917, to engage in commercial pursuits, the purchase and sale of urban and rural property, the cultivation of the soil and the development of industries connected with agriculture, and authorizes the company to do business in the Republic.—The Official Gazette of the Government of Haiti has published the letters received by the Treasury Department, in answer to a circular asking whether they favored or opposed governmental measures to prevent EXPORTS OF FOOD SUBSTANCES. All of the replies were in the negative with the exception of two, so that the Haitian Government, at the time of going to press, had taken no steps that would interfere with exports of alimentary substances.—The President has declared the contracts authorizing the distribution of ELECTRIC light and power to the towns of Cayes de Jeremie, Port de Paix, and St. Marc, forfeited.—An executive decree of September 27, 1917, prorogues during the fiscal year 1917-18, articles 17 to 24, inclusive, of the law of October 24, 1876, and articles 52 and 53 of the law of August 3, 1900, as well as that part of the schedule of the latter law which refers to NEW PROFESSIONS and industries. The amount of the tax on vehicles and public entertainments is to be used for the maintenance of municipal hospitals.—In accordance with a decree of September 29, 1917, a number of SPECIAL CREDITS, amounting

to 1,252,039 gourdes and \$316,079, were made available to the Government. These funds are to be used by the different departments in defraying the national expenses during the first quarter of the present fiscal year.



HONDURAS

A representative of the Troy Honduras Co. has solicited from the Government of Honduras for a period of 20 years from the date of the approval of the concession by the National Congress, 1,000 hectares (hectare = 2.471 acres) of Government lands, situated in the jurisdiction of Siguatepeque, Department of Comayagua, for the establishment of an AGRICULTURAL PLANTATION to be conducted in accordance with modern methods. The petitioner offers, among other things, to plant 100 hectares to cotton during the first year, and at least 200 hectares in the following year. It is also proposed to install within 18 months a factory for the manufacture of yarns, threads, and cloths with a capacity of 200 kilos of finished products daily.—On September 15 last the city of La Ceiba opened to public traffic a BRIDGE over the Cangrejal River. The structure has a width of 5 yards and a length of 280. On the same date Vacaro Bros. inaugurated the electric light and power service in La Ceiba. A number of manufacturing establishments operating in that city propose to use electric power in manufacturing processes as soon as they can equip their plants with the necessary motors and machinery. The city of La Ceiba is rapidly increasing in population and is fast becoming one of the most important ports and industrial centers of the Republic.—The Department of Promotion (Fomento) of the Government of Honduras is preparing a pamphlet containing the curriculum adopted by the SCHOOL OF ARTS AND CRAFTS in Tegucigalpa and the rules and regulations governing that institution. One of the chief objects of the school is to train workmen along practical and theoretical lines and to give them a foundation for becoming specialists in the different branches of mechanics used in the arts and industries of the Republic.—The NATIONALIST CLUB, an organization allied with the labor unions of Honduras, was organized in Tegucigalpa in September last. Dr. Francisco Bertrand, President of the Republic, was elected honorary president of the club.—One of the most useful public works undertaken during the administration of President Bertrand is the construction of the NORTHERN HIGHWAY, a wagon and automobile road which will run to or connect with the principal Atlantic ports of the Republic. The road has been under construction for several months and 20 kilometers are ready for macadamizing, and it is stated that within six months the highway will be macadamized to Comayagua.—The Official Gazette of the Government of Honduras of July 7, 1917, contains the full text of the contract made with Soriano and Callejas for the establishment and operation of PACKING HOUSES in different parts of the Republic, and especially in the Department of Cortes, Yoro, Atlantida, and Colon.—The TOBACCO grown in the Department of Copan is of excellent quality and has become very popular abroad, especially in

Salvador, Guatemala, and Peru. A company was recently organized in Honduras to cultivate tobacco in the Department referred to, and to manufacture cigars and cigarettes.



The Atlantic and Pacific coast CORN belts of Mexico have produced during the present year an abundant yield of that cereal. A shortage, however, has been experienced in the Central Plateau region of the Republic, due to decreased rainfall and early frosts. The Director General of Agriculture reports that the crops already harvested throughout the Republic have been good, and includes, corn, wheat, beans, potatoes, garbanzas (chick peas), etc. The National Government has instructed the governors of the States to increase as much as possible the acreage under cultivation, and to allot lands not cultivated by their owners to applicants who will produce crops.—The treasury department of the Government of Mexico has issued a statement showing the entire bonded and interest INDEBTEDNESS OF THE REPUBLIC to be 423,646,605 pesos, or the equivalent of \$211,823,303 American gold. The interest upon the various bond issues, which varies from 3 to 5 per cent, and which has not been paid during the revolutionary period, amounts to the equivalent of \$34,079,725 American gold. The total bonded indebtedness and accrued interest is, therefore, the equivalent of \$245,903,028 American gold.—Steps have been taken looking to the establishment of a CLAIMS COMMISSION to which all international claims shall be submitted. If appeals are made from the decision of the commission, it is proposed that they be settled by arbitration.—There are now in operation in the City of Mexico 2,165 AUTOMOBILES, 1,329 of which are for private use and 836 for hire. Among the latter number are 150 jitneys and 33 taximeters. There are also 2,457 coaches or carriages in the National Capital of which 900 are for private use and the remainder for hire. The department of Communication and Public Works has planned to build automobile roads throughout the Republic. One of the first planned to be completed will connect the City of Mexico with Juarez and El Paso, a distance of about 1,200 miles. The plan has the approval and support of the different States.—A permanent COMMERCIAL MUSEUM has been opened in the city of St. Louis. The exhibits are made up of contributions from different parts of the Republic.—The secretary of fomento has instructed that where persons ask for the use of GOVERNMENT LANDS FOR CULTIVATION, no more than 50 hectares (124 acres) shall be allotted to any one person, the object being to encourage small farmers and to prevent the monopolization of land.—As a result of the successful operation of the CONGRESS OF WORKMEN in the State of Sonora, similar bodies are to be established in other States of the Republic for the purpose of handling questions pertaining to labor and of carrying out the provisions of the new Constitution concerning labor.—Local capitalists have petitioned the Government for permission to build an ELECTRIC RAILWAY between the City of Mexico and Puebla.—Direct TELEGRAPH COMMUNICATION

between the City of Mexico and Merida, capital of the State of Yucatan, has been reestablished. The interruption dates from 1913.—Instructions have been issued forbidding the EXPORTATION OF IRON, especially that of machinery or other objects used in railway construction or transportation.—There was recently discovered in the historical Cortez mansion at Coyoacan, a suburb of the City of Mexico, a PARCHMENT of the year 1528 consisting of numerous pages showing the various portions of Mexico as then supposed to exist, together with plans of many of the cities. A reproduction of the volume is to be made for the study of experts.—Extension deposits of GUANO are reported by miners prospecting in the Sierra Madre mountains, State of Sonora, who state that many thousands of tons are available for shipment from large caves where this substance has accumulated.—During the fiscal year 1917 the United States imported from Mexico products valued at \$112,138,677 and EXPORTED to that country merchandise aggregating a value of \$78,659,893.—It is proposed to build a WAGON ROAD between the city of Monterey and Villa Galeana, State of Nueva Leon. At one place in the road a tunnel nearly 1,000 feet in length will have to be constructed.—A NEW PARCEL POST CONVENTION has been concluded between Mexico and the United States, and became effective November 1. The weight limit has been raised from 11 to 20 pounds.



NICARAGUA

According to the Bluefields American, H. J. Thurston of Bay St. Louis, Miss., proposes to engage in the purchase of green sea turtles and calipee and to market same in tins under the name of NICARAGUA TURTLE PRODUCTS. The gentleman referred to, after a visit to the Atlantic coast in October last, stated that he had arranged with Brautigam & Co., of Pearl Lagoon to receive all turtles caught on the coast at a large crawl which has been installed at Tangwirra Cays. The firm in question will also receive at Pearl Lagoon, for account of Mr. Thurston, such quantities of dried calipee as may be offered, paying the highest market prices for same. Formerly Nicaraguan fishermen of the Atlantic coast region of the Republic sent their catches of turtles to Jamaica, but now that a market has been established on the coast of Nicaragua it is believed that greater advantages will be found in canning these products at home, that the market will be stimulated and a much larger catch than heretofore will be obtained. Mr. Houston is also considering the advisability of establishing a small cannery at Pearl Lagoon to handle the pineapples of the Atlantic coast which are of fine quality and available in abundance in that vicinity.—According to press reports the President, by an executive decree, has made an addition to the FORESTAL TAX LAW under which lignum-vitæ, sweet gum, hardwood, red ebony and other woods which were not classified under the original law are required to pay \$1 per thousand kilograms of timber cut for export. Any doubts or consultations concerning any other class of timber not specified in the law of August 25 are to be referred for final settlement to the Minister of

Development of the Government of Nicaragua.—An executive decree has been promulgated which authorized the Government of Nicaragua to dispose at public auction in October last of the abandoned machinery and MATERIALS OF THE ATLANTIC COAST RAILWAY, with the exception of such tools and machinery as the Minister of Development may indicate. Owing to the high price of iron at the present time it is believed that the Government will realize more at auction for the sale of the property referred to than it would have received by selling it in gross to local railway contractors.—In October last a MAHOGANY LOG, said to be the largest ever sawed in Nicaragua, was converted into lumber at Schooner Cay, the net production amounting to 2,500 feet of clean mahogany. The log, which was 16 feet in length, measured 62 inches at the smaller end, and was of a beautiful grain. Some of the boards cut were over 4 feet in width and from 4 to 6 inches in thickness. Another log over 6 feet through at the butt was brought to Schooner Cay. It is too large for the sawmill to handle and will be shipped to Philadelphia in bulk. This timber came from Camp Baloon on the upper Siquia River near Acoyapa and was floated a distance of approximately 400 miles before reaching tidewater.—The Collector General of Customs has instructed customs appraisers and liquidators in the maritime ports of the Republic to see that correct values are noted in EXPORT DOCUMENTS in order that same may be used in compiling the statistics of the exports of the country.—The ICE FACTORY and bottling works in Bluefields were recently consolidated into one plant and some new machinery was installed.—Drillings made at the Rosita Copper Mine in Prinzapolka are reported to have indicated the existence of PETROLEUM, and steps have been taken to organize in the United States a company to drill for oil deposits in that vicinity.—The NICARAGUAN DEVELOPMENT CORPORATION, a Chicago concern organized under the laws of the State of Arizona and with a nominal capital of \$1,000,000, is negotiating for the purchase of 90,000 acres of land in the Pearl Lagoon district. Newspaper advices state that this company proposes to dredge the Pearl Lagoon bar so that steamers may connect with the projected terminal of the proposed railway to Matagalpa to be constructed under what is known as the "Brautigam contract."



In October last the new CIVIL MARRIAGE LAW became effective in Panama, under the terms of which the contracting parties are required to register their wedding with the State authorities, for which service a small registration fee is charged. While the religious ceremony may be performed in the church or elsewhere, it is not necessary to establish the legality of the contract. Unless the registration referred to is complied with a church marriage is invalid.—An ACETYLENE GAS and compressing plant, consisting of two Navy-type acetylene generators, each having a capacity of 200 pounds of calcium carbide at a single filling and generating 200 cubic feet of acetylene gas per hour, has been established in the

Balboa shops, Canal Zone. The installation includes a 100-cubic-foot gasometer, a purifying and drying apparatus, Chatillon and Osgood weight scales, an acetone charging apparatus, a gas meter, a 3-stage compressor, and a tank-charging rack with specially prepared cylinders to contain compressed acetylene gas.—A shipment from the United States of 1,200 CHICKENS of the early feathering varieties, consisting principally of Rhode Island reds, white Plymouth Rocks, white leghorns, and white wyandottes, was received last month at the Summit farm, Canal Zone. These fowls, which are in charge of an American poultry expert, are to be used for breeding purposes.—A recent executive decree suspends the provisions of the new Fiscal Code concerning the use of 5-cent stamps on checks and drafts until the National Assembly passes a law regulating this question. One-cent internal-revenue stamps will continue to be used on the documents referred to.—The Panama authorities have laid out a restricted FIRE ZONE in the city of Panama and the Canal Zone immediately adjoining, in which the construction and reconstruction of only fireproof buildings will be allowed.—The Government of Panama and the officials of the Canal Zone are negotiating for the construction and operation of a joint HOSPITAL near Corozal for the treatment of patients suffering from tuberculosis and mental derangement, on the basis of a payment by the Government of Panama of 75 cents daily for each tubercular or mental case sent by it to the hospital.—The Isthmian AGRICULTURAL COMPANY, with a capital of \$300,000, American gold, represented by 12,000 shares of \$25 each, has been organized in the City of Panama for the purpose of buying land and engaging in agricultural pursuits on a large scale. The headquarters of the company are to be in the City of Panama, but branches will be maintained in the interior of the Republic and in some foreign countries.—According to the new Fiscal Code, which became operative October 1, 1917, the impost on each liter of spirits produced is 15 cents and on each 32 gallons of beer \$1. Distillers are prohibited from selling spirits having a less gravity than 21 degrees Cartier, but anisette and rum may be sold up to 20 degrees. LICENSES FOR RETAILING LIQUORS shall be paid monthly according to classification. In Colon, Panama, and Bocas del Toro these licenses are fixed, according to classification, as follows: Class 1, \$100; class 2, \$75; class 3, \$50; class 4, \$25, and class 5, \$15. In the other Provinces of the Republic the licenses are, for class 1, \$20; class 2, \$15, and class 3, \$10. Persons who retail liquors by the drink and up to a demijohn equivalent to 16 liters are required to take out licenses.—The Government of Panama has acquired the 20 hectares of land occupied by the AGRICULTURAL EXPERIMENT STATION.—Since October 1 of the present year The International Banking Corporation of the City of Panama has kept its ACCOUNTS IN AMERICAN GOLD.



The Senate of the Congress of Paraguay is considering a bill, approved by the House of Deputies, for the consolidation of the BUREAUS OF HYGIENE AND PUBLIC CHARITY under the

management of a Director General and a board of four of its members. These two bureaus have hitherto been governed separately and by different laws.—A bill has been introduced into the House of Deputies of the Paraguayan Congress providing for the establishment of a DEPARTMENT OF LABOR, ARBITRATION AND CONCILIATION to settle disputes between workmen and their employers.—The National Congress has enacted a law prescribing the form of payment, on and after January 1, 1918, of PENSIONS to war veterans and their successors in accordance with the laws now in force.—According to a recent report made by the board of directors of the BANK OF THE REPUBLIC at a general meeting of the stockholders, the profits of the bank for the fiscal year ended June 30, 1917, were 304,420 gold pesos (gold peso = \$0.965), of which 30,442 gold pesos were credited to the reserve fund.—The Department of Fomento (Promotion) has authorized the officials of Bahia Negra and Fuerte Olimpo to prohibit the cutting and shipment of PALMS on lands under their jurisdiction belonging to the State, without permission in writing from the Treasury Department or from the Department of Fomento, and transportation companies are prohibited from hauling cargoes of palms originating on the Government lands referred to unless authorized to do so by the Treasury Department.—The Minister of Uruguay in Asuncion, in compliance with instructions of the Office of Foreign Relations of the Uruguayan Government, has proposed to the Paraguayan Government that a TREATY OF COMMERCE be concluded between the two countries. The proposed treaty stipulates that the products of both countries shall be entitled to the privileges granted in the trade conventions of the respective countries to the most favored nation, and that a specified number of exports from each country be allowed to enter the other free of duty. In order to encourage commerce between the two nations it is suggested that special privileges be given to commerce in transit between the two countries by allowing the free use of Government warehouses, exemption from Government lighterage charges, storage gratis in Government warehouses for a period not to exceed one year, and the granting of reciprocal concessions in the coast-wise trade.—The Minister of Paraguay in Buenos Aires has advised his Government of the exchange of ratifications in that city on September 13, 1917, of a convention for simplifying the legalization of REQUISITORIAL AND ROGATORY LETTERS.—The Commercial Review of Asuncion states that the National Capital will soon have two more handsome buildings, one constructed by and for the use of the Board of Trade at a cost of 454,000 pesos, and the other by the Bank of Spain and Paraguay.—In compliance with a request of the Board of Trade of Asuncion an order has been issued by the Government prohibiting the EXPORTATION OF BOTTLES.—Recent estimates of the production of SUGAR in Paraguay in 1917 are 738 tons from a total area of 589 hectares planted to sugar cane. Drought and frosts have injured the sugar-cane crop during the last three years. In 1914 the production of sugar in the Republic was 2,539 tons; in 1915, 1,536 tons; in 1916, 788 tons, and in 1917 (estimated) 738 tons. A hectare of sugar cane in Paraguay in normal years yields 30 tons of sugar, but under unfavorable conditions this is reduced to 12 or a smaller number of tons. The annual consumption of sugar in Paraguay is 3,500 tons, so that the deficit during the present year is estimated at 2,762 tons.



PERÚ

The total FOREIGN TRADE of Peru for the year 1916, according to the report of Señor Don Octavio Espinosa, Chief of the Statistical Division of Customs, amounted to 25,224,212 libras, of which 8,683,150 libras were imports, and 16,541,062 libras, exports. The figures for the year 1915 were: Imports, 3,095,545 libras; exports, 14,123,071 libras; total, 17,218,616 libras. Estimating the value of the libra at \$4.86 United States gold (the same as the British pound sterling), the value of the Peruvian foreign trade for the year 1916 was: Imports, \$42,200,010; exports, \$80,389,561; total \$122,589,571. On the same basis the figures for 1915 were: Imports, \$15,044,347. exports, \$68,638,128; total, \$83,682,475. This shows an increase in imports of \$27,155,663, and in exports of \$11,751,433, or a total increase in the foreign trade for 1916 of \$38,907,096.—There are now under construction in the city of Lima, at a cost of 480,000 soles (sol = \$0.486), the following BUILDINGS FOR THE CARE OF INDIGENT CHILDREN: A hospital for foundlings, a building for the girls' school of arts and crafts, and one for the boys' school.—The proposed EXPENSE BUDGET of the Peruvian Government, submitted to Congress by the President of the Republic for the year 1918, amounts to £3,975,616 (£ = \$4.86).—According to a report of the Treasury Department of the Government of Peru, there were minted in Lima from April 11, 1898, the date on which pounds were first coined in the Republic, to June 30, 1917, GOLD COINS to the number of 3,603,158 representing a value of £3,008,374, of which £582,477 were struck in 1916, and £643,533 during the first half of 1917. From June 30, 1902 to the same date of 1917, the imports of gold coin were valued at £4,173,328. From August 1914 to June, 1917, the silver coined in Peru represented a value of 5,106,163 soles (sol = \$0.486).—Representatives of Peru and Uruguay have signed a general ARBITRATION TREATY, subject to the approval of the Congresses of the two nations, to take the place of the treaty celebrated between these countries on December 4, 1915.—The Consul General of Peru at Manaos, Brazil, has compiled data showing that the EXPORTS OF PERUVIAN RUBBER through the port of Manaos during the first half of the present year consisted of 96,997 kilos of fine rubber, and 23,133 kilos of sernamby.—The Treasury Department has contracted with the "Compañía Salinera del Perú" for sufficient RICE to meet the domestic needs of the country, and has fixed the retail price of same at 30 centavos. (\$0.15) a kilo.—Congress has enacted a law authorizing the Provincial Council of Lima to negotiate a LOAN of £400,000, the proceeds of which are to be expended on works of sanitation in the National Capital.—About the middle of September last an AUTOMOBILE TRIP was made from Lima to Yangas, a hamlet on the Canta road, 70 kilometers from the National Capital, in two hours and thirty-five minutes, the return trip being made in two hours.



SALVADOR

The President of the Republic has approved a contract made by the Department of Fomento with René Keilhauer, under the terms of which the latter agrees to organize in one of the States of the American Union, in accordance with State and Federal laws, a HOUSE AND BUILDING CONSTRUCTION COMPANY to operate in Salvador in a manner similar to that followed by building and loan associations in the United States. The company promises to invest in the country, within the term of 10 years, \$1,000,000, or a larger amount if necessary, provided it receives sufficient acceptable applications for the use of the money referred to, to enable it so to do. The value of the buildings erected by the company is to be repaid in annual installments representing 10 per cent of the total amount of each contract, from which sum interest at the rate of 8 per cent per annum will be deducted and the remainder applied to the payment of the principal. The company proposes to give preference in the erection of buildings to those constructed for the national and municipal governments and for charitable institutions, such as hospitals and asylums, after which work will be done for individuals, companies, societies, and corporations. The company agrees to organize within six months. Its capital, bonds, and interest coupons are exempt from national and municipal taxes.—Among the different celebrations which were held in the city of San Salvador on September 15, 1917, in honor of the ninety-sixth anniversary of national independence special mention may be made of the manifestations of fealty to the flag by the students of the capital of the Republic, and the official inauguration of the Venustiano Carranza WIRELESS TELEGRAPH STATION presented by the Government of Mexico to the Government of San Salvador and installed at San Jacinto, a suburb of the city of San Salvador. A few days before the official inauguration took place very successful trials were made at the new station and communication was maintained between the station referred to and that of Chapultepec near the City of Mexico.—The Salvadorian press states that the Governments of Salvador, Guatemala, Costa Rica, and Nicaragua have favorably received the invitation made by the Government of Honduras to hold a CENTRAL AMERICAN CONGRESS to consider the political union of the five Central American Republics.—The Red Cross of Salvador is waging an active campaign against infantile mortality. This organization has just established in the national capital a FREE DISPENSARY for indigent children up to 10 years of age.—A section of the INTERNACIONAL RAILWAY recently constructed between Zacatecoluca and San Vicente has been received by the representatives of the Department of Fomento. The section referred to covers a distance of 10 kilometers and forms part of the line which the International Railway Companies of Central America are building from the port of La Union to the capital of the Republic.—The Executive Power has approved a PARCEL-POST CONVENTION

concluded in the city of Washington on July 27 of the present year between Dr. Rafael Zaldivar, envoy extraordinary and minister plenipotentiary of the Government of Salvador near the Government of Washington, and Mr. Albert S. Burleson, Postmaster General of the United States of America, in representation of their respective Governments.



URUGUAY

The URUGUAYAN SOCIETY OF INTERNATIONAL LAW has been organized in Montevideo and the following administrative committee for the period 1917-1919 has been appointed: Dr. Juan Zorrilla de San Martín, president; Dr. Antonio María Rodríguez, vice-president; Fermín Carlos de Yéregui, secretary; Dr. Adolfo Berro García, treasurer; and Drs. Baltasar Brum, Luis Alberto de Herrera, and Juan Antonio Buero, advisory members. Dr. Feliciano Viera, President of the Republic; Dr. José Batlle y Ordoñez; and Dr. Baltasar Brum, who signed the decree of December 29, 1914, establishing the organizing committee of the society, were elected honorary members of the same. In the near future the society will select five of its members to be proposed for membership in the American Institute of International Law, a Pan American organization which has its headquarters in Washington.—Luis J. Supervielle, President of the Board of Directors of the Insurance Bank, has consulted with Federico R. Vidiella, Minister of Finance, concerning the establishment and operation of a department of AGRICULTURAL LOANS in connection with the bank, a matter that is of the greatest importance to the country.—Referring to the ECONOMIC SITUATION of the nation the Minister of Finance states that the deficit for the present year will not exceed 1,500,000 pesos (peso = \$1.0342) and remarks that this showing is very satisfactory, inasmuch as the deficit estimated by the executive power was 2,700,000 pesos, and taking into consideration the fact that a number of negative factors have operated against the interests of the State, such, for example, as the noncollection of the departmental sanitary tax of 400,000 pesos, warehouse licenses of 250,000 pesos, other miscellaneous revenues, and a decrease in the amount of the taxes on real estate. Bearing in mind that the gold reserve of the country aggregates 47,000,000 pesos, that the prices of Uruguayan securities are higher than they were before the war, and that the outlook for an abundant crop of cereals and a large yield of wool is excellent, it must be acknowledged that the financial condition of the country is good.—The bank inspector has reported to the Treasury Department on the general CONDITION OF THE BANKS of the Commonwealth in July last. The gold coin on hand at that time was 46,777,281 pesos, of which 41,017,667 pesos were in the vaults of the Bank of the Republic and the remainder in the other banks of the country. The bank notes on hand representing gold coin amounted to 4,810,000 pesos, and the silver and nickel coin 1,948,337 pesos, of which 1,805,332 pesos were in the Bank of the Republic. The total cash on hand was

53,535,618 pesos, distributed as follows: 42,822,999 pesos in the Bank of the Republic and 10,712,619 pesos in the other banks. The current deposits aggregated 35,666,307 pesos, of which 15,374,741 pesos were in the Bank of the Republic and 20,291,566 pesos in other banks. The fixed time deposits amounted to 25,309,625 pesos, the Bank of the Republic having 7,768,811 pesos and the other banks 17,540,814 pesos. The discounts and advances aggregated 73,554,836 pesos, of which 33,372,947 were for account of the Bank of the Republic and 40,181,889 for account of the other banks. In June last these banks had coined gold on hand to the amount of 44,362,579 pesos, bank bills representing gold, 3,734,000 pesos, and silver and nickel coin 2,277,111 pesos, or a total of 50,373,690 pesos. The deposits in account current amounted to 34,998,447, fixed time deposits 24,310,998 pesos, and discounts and advances 72,667,103 pesos.—The rules and regulations governing INDUSTRIAL NIGHT COURSES for workmen and apprentices, formulated recently by the executive power, contain a number of important provisions. The courses for males and females are entirely separate, and the classes are conducted in connection with the existing industrial schools of the Republic, whether public or private, and are under the supervision of a Superior Board of Industrial Instruction and a National Inspector, who, in turn, are under the control of the Delegated Departmental Commissions. The courses cover nine months of each year; that is to say, from March 1 to November 30. Classes are held daily with the exception of holidays and Saturdays, and the minimum length of instruction is one and one-half hours. The courses are under a head teacher and as many assistants as may be necessary to reduce the number of students in any one class to less than twenty-five. The principal subjects of instruction are industrial drawing, applied mathematics (arithmetic and geometry), and, where circumstances permit, physics, chemistry and industrial accounting. In addition, weekly conferences are to be given on subjects relating to industrial hygiene, the technology of the principal industries, economic, political or social, and commercial and industrial geography. Healthy male students of good moral character, not less than 17 years of age, may enter the classes, and female students, not under 15 years of age, having like qualifications are eligible for entry. The Board of Industrial Instruction has been authorized to establish, in accordance with the rules and regulations referred to, up to ten classes in the National Capital and in the interior cities of the Republic.—The report published by the Mortgage Bank of Uruguay, covering its twenty-fifth financial year, shows that its total MORTGAGE LOANS to March 31, 1917, numbered 487 as compared with 458 for the previous 12 months. The loans during the last 12 months consisted of 328 urban mortgages amounting to 1,685,700 pesos, and 159 rural mortgages aggregating 2,394,500 pesos, or a total of 4,080,200 pesos. This is 912,600 pesos less than the amount loaned during the previous 12 months in which the loans amounted to 4,992,800 pesos distributed as follows: Urban property, 1,430,400 pesos, and rural real property, 3,562,400 pesos. According to the report the decrease in the rural loans during the last 12 months is due to the higher prices obtained by producers of agricultural and stock products, thereby enabling farmers to meet their obligations without borrowing.

VENEZUELA

At an extra session of the National Academy of Medicine, of Venezuela, held in Caracas during the middle of September last, the following distinguished scientists were elected FOREIGN CORRESPONDING MEMBERS: Dr. Angel H. Roffo and Victor Delfino, of Buenos Aires; Dr. Julián Arce, of Lima; Dr. C. W. Stiles and Dr. H. R. Carter, of Washington; Dr. Simón Flexner and Dr. W. C. Gorgas, of New York; Dr. H. B. Ward, of Illinois, and Dr. Juan Guiteras, of Habana.—The receipts of the NATIONAL DRY DOCK of Venezuela for the fiscal year ending June 30, 1917, were 236,115 bolivars (1 bolivar = \$0.193).—In April last the SUSPENSION BRIDGE over the Guarenas River, which unites the towns of Guatira and Guarenas on the Eastern Highway of the Republic, was officially opened to traffic and christened "Miranda Bridge."—The MERCANTILE BANK of the Americas, a New York corporation, has established a branch in Maracaibo. This institution proposes to lend money on export consignments of coffee, cacao, and other staple Venezuelan export products.—Under a recent executive decree there was established in the Treasury Department on September 16, 1917, a BUREAU OF INTERNAL REVENUE, in accordance with the provisions of paragraphs 1 and 2 of article 5 of the law relating to customs.—Steps have been taken to begin the commercial exploitation of the ALOE PLANT, which produces a bitter substance used medicinally as a cathartic, in the neighborhood of Coro, where more than one million plants of this species are available for use.—The Caribbean Petroleum Co., which is engaged in the extraction of crude oil from the oil properties which it owns in the Republic, principally in the State of Zulia, has presented General Juan Vicente Gomez, President-elect of Venezuela, with the first barrel of GASOLINE made at its San Lorenzo refinery, which began operations on August 16, 1917. While the refinery has a capacity for handling 400 tons of crude oil daily, it is believed that 200 tons daily will supply the domestic needs of the country. San Lorenzo is 60 miles from the City of Maracaibo, and is connected by a steam railway 9.3 miles long with Lake Maracaibo. The company has opened on its properties automobile and wagon roads aggregating 90 miles for use in transporting materials. Of the 1,500 men employed in this industry nearly all are Venezuelans.—Press reports state that a Venezuelan mechanic has constructed a machine for HULLING BEANS with a capacity of five sacks per hour, or work equal in quantity to that done by fifteen men.—A commercial and industrial weekly NEWSPAPER entitled "El Impulsador del Trabajo" (The Encourager of Work) has been issued in Caracas under the direction of F. Maza Velázquez.—Venezuela, which is the home of the WHITE HERON, has enacted laws for the protection of egrets, and prohibiting the collection of their feathers, except in heronries at the time of moulting, from July to December. Customs collectors are instructed not to allow the exportation of heron plumes unless they are satisfied that the feathers are molted feathers and not pulled from caught or slaughtered birds. Egret feathers come exclusively from the Orinoco River section of the states of Bolívar and Apure.



19

20

21

22

23

THE PRESIDENT OF CHILE AND HIS CABINET.

Seated, left to right: The Minister of the Interior, Señor Elioðoro Vanez; His Excellency Señor Don Juan Luis Santuñete, President of the Republic, and the Minister of Foreign Affairs, Señor Eduardo Suárez Muñoz. Standing, left to right: The Minister of Justice and Instruction, Señor Arturo Alenparce; the Minister of War and Marine, Señor Oscar Vil Cavero; the Minister of the Treasury, Señor Ricardo Salas Edwards; and the Minister of Industries, Public Works, and Railways, Señor Matías Muñoz Concha.





VOL. XLV. DECEMBER, 1917. No. 6.

NICARAGUA, LAND OF ENCHANTED VISTAS¹

WE first saw Momotombo, a mile-high pyramidal cone, floating high in the heavens and enveloped in a purple haze that blended imperceptibly into the fleeting clouds about its summit. A mirage had lifted the distant peak into the skies. Beneath this mystic mountain of the clouds, there seemed a band of blue, the blue of immeasurable clear spaces, as though this phantom peak, with its faint gray plume, were suspended in the ether or rested upon a base of radiant blue light. On every hand, both north and south, were lesser peaks, each of them symmetrical cones, now standing out boldly in the brilliant tropical light and again gray with the shadows of the low-lying clouds. And in the foreground appeared the bright green of extensive pampas, vast seas of waving grass.

Gazing upon this brilliant mirage one would, indeed, have had difficulty in determining what of the spectacle were real and what a trick of the eyes. Yet either decision would have been well founded, for nature in Nicaragua gilds her landscapes with enchantment.

But neither Momotombo, Coseguina, nor even wonderful Omotepec or other famed volcanic peaks are the greatest glory of Nicaragua. Clearly the marvel of this land is the great inland Lake Nicaragua, the largest body of fresh water between Lake Huron and the famed Lake Titicaca on the borders of Bolivia and Peru. Lake Nicaragua, the smaller Lake Managua, and the area of fertile plains form the huge interior basin of Nicaragua, the inevitable location of a busy people.

It was late afternoon when our steamer rounded the lighthouse on the low-lying headland that marks the approach to Corinto. A

¹ By Hamilton M. Wright

ON THE PACIFIC SIDE OF NICARAGUA.
Upper: A distant view of the volcano Momotombo. Center: Corinto, the chief port of Nicaragua on the Pacific. A railroad connects the port with the capital and other cities. Lower: A placid stream in the lowlands.





GLIMPSES OF NICARAGUA.

Upper: San Juan del Sur, looking shoreward from a steamer in port. Center: General view of the region in the vicinity of Castillo Rapids. Lower: Near the Castillo Rapids, with the ruins of an ancient fort dominating the landscape.

brisk tide was flowing and we dropped anchor and whistled. The officers of the port came aboard. In 45 minutes we were tied up at the pier and had left the steamer, which even then had begun loading sacked coffee from flat cars shunted to the ship's side by small locomotives.

Corinto, on the Pacific, is the chief seaport of Nicaragua. It is one of the handiest ports between Panama and the States. Through Corinto passes more than two-thirds of Nicaragua's foreign trade. A beach, low-lying, yet withal well above the limit of high tide, gives way to groves of lofty palms that shade this picturesque community. Hotels and shops face upon a broad beach walk that curves outward to the pier. Good accommodations were to be had at Corinto for those who would take the train to the interior in the morning.

There is no country just like Nicaragua; none which is, perhaps, more difficult to describe by comparisons with other lands. When the sun, like a ball of molten fire, has plunged beneath the rim of the Pacific, and the sunset clouds tinged with purple, red, and gold, have faded before the swift-coming night, one can not be sure whether the scenes of tomorrow, in the pale light of early dawn, will resemble those of the day that has passed. Thus, in the morning, the mirage had gone. Old Momotombo, 60 miles or more away, mingled with a dozen nearer peaks. The brush fires upon their sides, that had given semblance of upheavals the night before were now scarcely discernible.

It is a dreamy land, at first glance; one where wonderful lights and shades, mirages, and mist effects, imbue even familiar features of the landscape with the mutable quality of changing panorama. But take the train for Granada and Lake Nicaragua. One soon discovers that for all its dreamy semblance, its majestic revelations of nature, Nicaragua is an active, progressive country with a most enterprising people. The railroad leads through the largest cities. Chinandega, agricultural center, is only about 12 miles from Corinto; Managua, the capital, is about 65 miles from Corinto; Leon, the former capital, is this side of Managua. Here, as elsewhere in Central America, are crowds at every station and girls and women peddling dulces (sweets) and fruit to travelers and sometimes native pottery.

The railroad journey does not resemble that into other Central American Republics. In passing into the interiors of Guatemala and Costa Rica the train first edges into the low coast country until it finally reaches the mountains, when it suddenly begins to ascend. The ascent continues until one is a mile or so above sea level, another world, where the steep gradient ceases, and the train winds along on the high plateaus, where are the chief cities and beautiful capitals.

Not so in Nicaragua. The train ascends very leisurely from the coast passing through a rich agricultural country which produces the finest maize, corn, sugar cane, etc., and slips through a low pass



SCENES IN THE CAPITAL CITY, MANAGUA.

Upper: Entrance to Campo de Marte. Center: The residence of the President of the country. Lower: One of the newer streets and the park, La Reforma, on the right.

in the coast range, which is hardly more than a low watershed, into the great interior basin passing by Lake Managua to Granada at the head of Lake Nicaragua, whose waters are but a hundred feet above the level of the Pacific Ocean. There is much open country, for the torrential rainfall of the Caribbean coast is not to be found here. The huge mountains that rise from the plains, the shores of the lakes, or from the lakes themselves, afford indescribable contrasts of scene.

We started in the golden light of a fine cool morning, followed the little spur of land on which Corinto stands, and were away in Nicaragua. On the train were persons from distant countries, for Nicaragua is cosmopolitan. The agent of a Chicago machinery firm was bound 20 miles or so down the coast to install the ponderous equipment of a sugar central. A cattleman from Oklahoma was looking at land on the west shores of Lake Nicaragua. A commercial traveler from Venezuela (his wares undisclosed) would make the rounds of Nicaraguan cities. There was a Coloradoan who solicits orders for the future delivery of ladies' garments, cotton goods, and laces. His business is entirely on commission. His field is from Guatemala to Chile. There was an English gentleman interested in mining, and other travelers whose missions I did not learn.

I should like to say that often my acquaintance from Colorado does not travel on a train or a steamer for months at a time. He travels overland. In South America he uses the old Andean trail. He had planned, after visiting Leon, Managua, Granada, and smaller cities, to leave the train and journey through El Salvador and Guatemala by pack train. Had his business demanded he could have gone south into Costa Rica, since there are good State roads running all through Central America. They are much traveled. The Government of Nicaragua has been active in road building. There are fine connections into Guatemala and Costa Rica and there are some 2,000 miles of roads in El Salvador.

Passing from the coast one obtains a new perspective of the numerous volcanic cones which, from the Pacific, had appeared as rising in solitary grandeur from the low coastal plains. They suggest the isolated buttes one sees in New Mexico or near the lower end of Death Valley, California. But upon approaching it is seen that large numbers of them are connected by low, serrated ridges, paralleling the coast. Their igneous origin is plainly to be inferred from patches of purplish-blue and yellowish or copper-colored scorie.

Bear in mind the remarkable topography of Nicaragua. It gives rise to a number of distinct climatic zones. A short distance from the coast and paralleling its general course is the long low-lying chain of volcanic peaks just mentioned. This chain constitutes the western watershed of the great Republic. Its eastern slopes drain into Lakes Managua and Nicaragua. Then, proceeding from west



THE TOWER OF LA MERCEDE, GRANADA, NICARAGUA.

Everywhere in Central America, even in the most unexpected places, the traveler discovers the picturesque and even the beautiful. This finely proportioned tower, recently constructed, would be worthy a classical setting in Italy.



Photos by William V. Alford.

STREET SCENE IN GRANADA.

This little city of 17,000 people is located about 30 miles from Managua. The imposing edifice shown in the picture is the municipal market which fronts on the market plaza, the latter being one of the most animated places of the city during the morning hours.

to east, is the great basin comprising the plains and the two lakes, of which Managua is much the smaller. It is about 30 miles long and from 8 to 15 miles wide. The climate here is that of the Pacific side of the Cordilleras, with much less rainfall than the Caribbean coast. It is moderated by the northeast trade winds, while the presence of the lakes and the near-by Pacific and the main chain of the Cordilleras exert a cooling influence.

The next zone is that of the Cordilleras, spurs of the great Andes. They pass as a rough irregular chain from Costa Rica through Nicaragua, spreading out in great mountain masses in El Salvador and Honduras. The Cordilleras also constitute a watershed, the loftiest divide of the Republic, though they are broken by the San Juan River through which the surplus waters of Lake Nicaragua flow to the Caribbean. Then come the plateaus, the highlands, and, finally, there is the low east coast with its innumerable swamps and hot, moist climate.

Nicaragua is almost divided by water. The industrious boatmen who alternately row, pole, and sail their craft up the river San Juan and across Lake Nicaragua may approach within 15 or 20 miles of the Pacific Ocean on the west borders of the lake. It is this configuration that for generations has compelled recognition of Nicaragua as the potential seat of a great isthmian waterway. As in the case of the Panama Canal, the creation of the Nicaragua Canal would be a Herculean undertaking. Yet the day may come, and doubtless will, when watchers at San Carlos will behold modern steamers entering upon the vast expanse of Lake Nicaragua.

Almost every water effect conceivable is to be visioned upon the broad surface of this mighty lake. At times the lake seems as great almost as Lake Huron. This especially is the case if one looks its length, for Lake Nicaragua is almost 100 miles long and nearly half as wide at its widest point. The lake, by the way, is reached from Granada by a car line a mile long, running from the market place to the water.

The lake was a marvel on that day in February. Loons, pelicans, and diving birds flew over its placid surface. Small fish leaped from the water. In places a gentle breeze ruffled its smooth expanse. Great schools of minnows crowded frantically to the top, pursued by larger fish which zipped savagely through the alarmed brigades, taking toll of the little fish and again returning to devour escaping stragglers. Out of gunshot and lifted in the air by a mirage, a flock of ducks floated upon the glassy waters. A long, low, lateen-sailed boat, perhaps loaded with dyewoods or cordwood, slid slowly along, seeming to catch the wind in the higher parts of its sail. In the distance appeared another gasoline launch, which gave us greeting as it passed. Our friend, the cattleman, said he saw a shark. Most wonderful of all was the vision of the distant volcano, Omotepec,



SCENES IN NICARAGUA.

Upper: A street in Leon, a city of 63,000 people, 50 miles from Managua. Center: Bridge over the Chiquito River. Lower: Hotel building in Leon.

rising 5,180 feet from the island of that name. Its twin volcano, Madera, is about a thousand feet lower. Omotepec recalls somewhat the famous Taal volcano in the Laguna de Bay, a large inland lake, reached from Manila by the ascent of the Pasig River. In reality it is far more splendid, more imposing, than the noted Philippine volcano. Omotepec is a prodigious mass. Its base would cover New York City. The island from which it rises was the center of an early civilization. Likely enough the lake was an inland plains from which there arose, no doubt, singly and in groups, volcanic eminences of varied heights that now, appearing from the water, make Lake Nicaragua one of the splendid show spots of the world. There are dozens of the islands. They range from the Omotepec and the large Zapatera to the smallest of the group known as the Corales (Coral Islands). Santa Rosa, Solentinam, and Pizarro are among the others.

Thick, primeval forests from the main range of the Cordilleras run down to the east shores of the lake. From its lower end one beholds the stupendous mountain masses of Costa Rica, which are continued in the huge chain running to the west and extending into Salvador and on into Guatemala and Mexico. On other points of the compass one beholds the volcanic peaks rising from the islands or from the plains or appearing as the most prominent features of long, low ridges. Although it shoals in spots near its shores, Lake Nicaragua is really a splendid commerce carrier, and at one time it was proposed to run ear floats from Granada to the foot of the lake to connect with a suggested line that would meet the Northern Railway at Guapiles, Costa Rica, or in that vicinity, in the low country on the Atlantic side of the Cordilleras. But since that time surveys have been made through the level country along the west borders of Lake Nicaragua.

World travelers who have visited Nicaragua have been warm in their praise of this land and its people. Some of Nicaragua's peaks are loftier than Vesuvius, and their water setting rivals the Bay of Naples. Here, too, nature is revealed in her most luxuriant garb, and there is much to interest the antiquarian. The region abounds in relics of past races. If travelers more widely knew what is to be seen in Nicaragua the journey through the Republic would become a beaten path for foreign travel. The steamer journey from Panama to Corinto and thence the interesting railroad trip to the ancient city of Granada are replete with change of incident and scene. The trip would include, of course, Managua, the capital, a thriving, prosperous center, with the life and sparkle for which the Latin-American capitals are noted. Here are located the Palacio Nacional, the national library and museum, and other fine works of architecture. It is a center for the coffee and other trades. From the adjacent Lake Managua rises Little Momotombo, Momotombo itself being on



Photo by William V. Alford.

RELIGIOUS EDIFICES IN LEON, NICARAGUA.

Upper: A suburban church as seen from a distance. Lower: The cathedral. On the left may be noted the preparations for a procession in honor of a fiesta.

the opposite shores. Leon, the former capital, would also be included in the itinerary.

In early days this fine city was one of the most important in Spanish-America and to-day contains some of the finest public edifices in Central America. Among them is the beautiful cathedral, in ornate renaissance effect, which after many years of costly construction was finally completed in 1774, two years before the North American Colonies had signed the Declaration of Independence. It was built on plans furnished from Spain. As the beautiful edifices attest, Leon was the center of the church in this part of Central America. For generations young men from all parts of the Republic have attended the University of Leon. Tanning is an important industry. Boots, shoes, and saddles are made. Cotton and woolen goods are woven. You can have made here shoes to order of as fashionable a last and as stylish as you can get them in any part of the world. Beautiful shoes for women are made with white and brown leather insets. Cigars and cigarettes are manufactured and, incidentally, Nicaragua can produce as fine tobacco as is raised in the Vuelta Abajo. The Indian population was established at the site of Leon long before the advent of the early Spanish explorers. Here lived the ancient rulers of the country. One can truthfully say that it is one of the oldest cities on the American hemisphere, antedating the coming of Columbus to western shores. Passing from Managua to Granada, one obtains the finest views of the volcano Misaya, another incident of the Nicaraguan journey. A visit to Misaya is well worth while.

Life in Nicaraguan cities is attractive. The army officers in their smart uniforms, the bustle of official life, the cosmopolitan character of those one meets, the pleasing architecture, the fiestas, the love of music and of wholesome entertainment, and, most of all, the courtesy among all classes of Nicaragua's people, who probably now exceed one-half million population, lend novelty and delight to a visit in Managua, Leon, or other centers. In these cities he who travels will find excellent hotels. In the shops one may purchase the products of both American and European manufacture. Although some of the former are becoming scarce, most of the needed wares seem to be on hand. Nor must we overlook the fact that Nicaragua has her own manufactures. Should the traveler desire to proceed into the interior he will be able to provide himself with everything necessary to outfit for the trip.

Such a journey will never be forgotten. Bird life is varied and charming. It is said of many semitropical countries that the flowers give no scent and the birds no song. Certainly this is not true of Nicaragua. For one who wanders from the beaten path, the hosts of feathered friends, the flowers, beautiful trees, and flowering vines add indescribable charm to the wild beauties of nature.



GENERAL VIEW OF MATAGALPA, NICARAGUA.

This town of about 5,000 population is located in the interior of the Republic and is becoming more and more important as a center of trade, the agricultural development of the region having greatly advanced in recent years.



THE VOLCANO MOMOTOMBO.

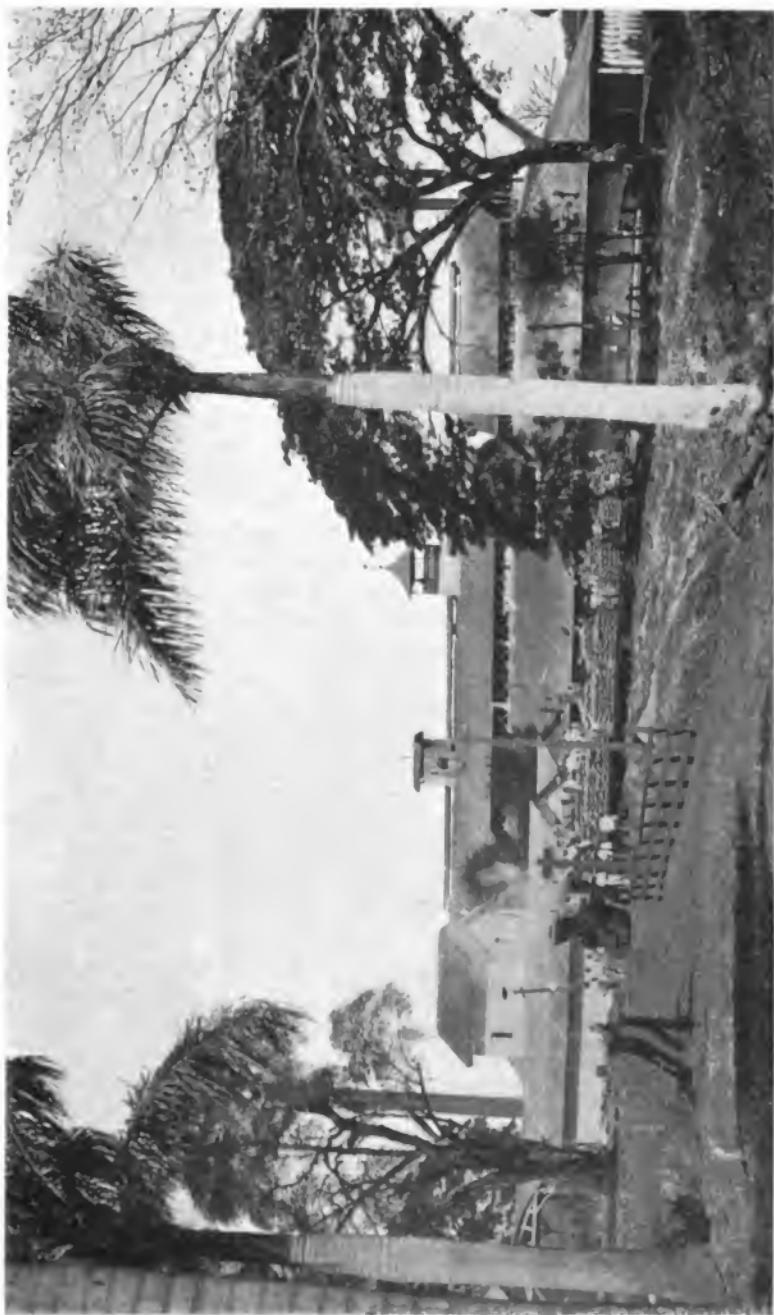
This symmetrical mountain rises near the shore of Lake Managua and is one of the attractive features of the landscape noticed by all tourists and travelers.

On one occasion we took an old trail leading back from the east shores of the lake. Some years before this had been a logging road and it was still maintained in a fair state of repair. I met here a young Swiss settler who spends a large part of his time in hunting deer, of which there are many, and other creatures of the wild. He has greatest success in the dense forests which crowd to the shores extending miles into the Cordilleras. Much of his hunting is done with a flash light at night along trails which he keeps clear. The Tinamus or mountain hen, the crested Curassow (*clax globicera*), the tapir, the jaguar (*el tigre*), often fall victims to his woodcraft. In hunting, it may be interpolated, one does not crash boldly through the forest, but steps softly, a few paces at a time, pausing to watch and listen, as the wild creatures do. Then, and then only, does the fascinating life of the wild become apparent. The forests which have seemed stilled and silent become peopled with beautiful and abundant life.

Aside from the creatures mentioned there are turkeys of several species, wild hogs, and pigeons which abound almost everywhere. In the open country there is the small brown variety, scarcely larger than a robin, which will permit one to pass within a few feet. The cowardly puma, called *el leon*, is common here, as well as the numerous smaller predatory cats. Deer hides are used in the manufacture of gloves. A jaguar hide will sell for from \$3 to \$8 gold according to its size, its marking, and the condition of the pelt. Pelts of the smaller cats, of which many are slain for every jaguar, are even cheaper.

Animal collectors, particularly bird fanciers, visit the country, assembling young parrots, parrakeets, and macaws for the northern markets. Monkeys are also gathered, the poor little mother usually being killed. Of these little wild men the most intelligent that I have seen is the white-faced monkey. It is not, however, as common as the little brown fellow. The howlers are numerous.

Insect life is found in variety. Great swarms of butterflies flit over the surfaces of lagoons. At the water's edge spiders cover whole trees with their webs. Perhaps most interesting of all creatures, large or small, are the leaf-cutting ants. These insects proceed from their nests for several yards to the foliage they will harvest. Moving in a circle with her hind legs as a pivot, each ant cuts from the selected plant a roundish piece of leaf about as large as one's thumb nail. Then she proceeds down the limb with her burden, where she joins hundreds of thousands of her companions, each bearing its bit of green leaf. The returning armies, marching in a dense formation 8 or 10 inches wide, suggest a rivulet of green. The bits of leaves are taken underground, where they become encrusted with a mold upon which the ants feed. Also the bold



A BIG SUGAR FACTORY ON A NICARAGUA PLANTATION.

On the larger sugar and coffee estates the operating companies have introduced the most modern machinery and labor-saving devices. The small plantation owner, however, is just beginning to replace ancient methods by the purchase of new machinery.

ecitons, or foraging ants, are to be seen. They prey exclusively on insects. Decaying logs or trees, under whose bark choice morsels lie, are to be found as the chief objectives of their raids.

Above all things Nicaragua is essentially an agricultural country, and perhaps we have not dwelt sufficiently on this. But a relatively small proportion of its population is clustered in the cities. Of all Central America it has the most low level land. The aborigines had never seen a horse until the Spanish came, but to-day horses, mules, and cattle thrive. Three crops of maize may be raised in a year. Bread fruit grows and alligator pears, nectarines, grape fruit, yams, bananas, and sweet potatoes, cotton, corn, sugar cane, coffee, and vegetables are produced.

Most interesting of all agricultural productions, to our way of thinking, is coffee. Take the branch to Diriamba and observe the coffee estates. There is nothing more attractive than a well-ordered coffee finca with its trees neatly pruned and flourishing. Once I came to a gate marked by large pillars. Thence a winding road led between the coffee trees to a hospitable plantation home, with near-by corrals and oxen. There were coffee driers where the berries are spread beneath the sun and a small mill where they are husked and sacked for market. A score of pretty Nicaraguan girls were working in a sorting shed through which we were shown by the hospitable proprietor. He had met us with friendly greetings as we had approached his home through the long rows of coffee bushes that with their shining dark green leaves formed a canopy 8 or 10 feet high. The ranch house was white with blue and ochre trimmings. It stood in a cluster of bamboos and palms, while lovely creepers with festoons of pink flowers clambered to the eaves and familiar garden flowers and cactus decorated the yard in front. After a repast of many courses and a pleasant afternoon we said good-by to our host who accompanied us to the gate. Had he known us a lifetime he could not have put himself at greater pains to be hospitable. "Adios, señor" he cried, "Come again. Do not forget to write. Remember, we are all your friends," and I knew they were. Whether one stops at a wealthy estate or at the humblest thatch, he feels the influence of a cordial welcome.

We left as the afternoon shadows were lengthening across the shaded lane. It led over an arched bridge of masonry that spanned a dancing stream, where women knelt beating their clothes into an immaculate whiteness. Some of them wore the picturesque guipil and sash and all were attractively attired. Pretty young girls were carrying water, laughing and chatting at their task. The lane wound by thick-walled cottages staunchly built of sun-dried squares of earth and surfaced with white plaster that gave no hint of the humble though enduring construction. Clusters of flowers fringed the



Photos by William V. Alford.

FOOD PRODUCTION AMONG THE POORER CLASSES.

Upper: A simple device used in various tropical countries for grinding corn. Lower: Grinding arrow-root preparatory to making bread.

walls matching the bright red of the Spanish tile roofs. Down the lane blew the evening breeze imparting almost a sense of chilliness to the late day, and when at last the sun had sunk beneath the fringe of the near-by hills we could see the lights of our hotel and hear the distant strains of an orchestra. The day's work was over, but until 9 or 10 at night the creaking bull carts were to pass on the country roads laden with their sacks of coffee. Then the drivers would build a fire by the road, tell stories perhaps, smoke, chat, and plunge into sleep only to be started again before dawn.

Such, in part, is Nicaragua, the Italy of Central America. It is a land of low-lying clouds and pleasant trade winds, of giant peaks and of lakes upon which every detail of these lofty eminences are mirrored, of ancient cities whose stately churches rise, for miles the most conspicuous features of the landscape, of vast plains and dense forests. It is the country of a hundred giant mountains, oft colored by former upheavals whose débris contrasts with the encroaching green, Santa Clara, Coseguina, Momotombo, Omotepec, the extinct Mombacho towering above Granada, Los Pilas, Madera, Telica and a host of others. But perhaps I have said enough of volcanoes and have ascribed to them an importance which, apart from their scenic charm, their relation to the country does not warrant. Yet I have mentioned these splendid peaks solely because they are wonderful and picturesque features of the landscape. Always they are fascinating, frequently beautiful and appalling, never more so than when rising clouds like great parasols are beheld above their summits. The majestic appearance of the twin volcanoes, Omotepee and Madera, rising almost a mile in height from the waters of Lake Nicaragua, is one of the splendid spectacles of the world—a vision that changes constantly with the fleeting clouds, cloud shadows, and mists, and is as constantly mirrored in the surrounding waters.

Yet, if, through some weird act of legerdemain, Nicaragua could be rid of her volcanoes it would not pay her to exercise that power. For these volcanic soils mixing with the deep black sediment of western Nicaragua create the finest sugar land in the world. The volcanic lands make the best of coffee with the most desirable bouquet. From the viewpoint of danger the volcanoes are less formidable than the automobiles of any great city. Moreover they give warning, and lastly, the violent tremblers are usually confined to distant areas and strata; and, if I may say more, it is in only a part of Nicaragua that the volcanoes are found.

Nicaragua is one of the most easily traversed of the Central American countries; and each day's travel reveals kaleidoscopic changes in scene. Here are mountains, plains, lakes, and an earth that responds to the husbandman. After the great war, when the world is again at peace, thousands of world travelers will assuredly visit this sunlit land of enchanted landscapes.

TRAVELS IN ECUADOR

NOW that many products of tropical regions of the earth are becoming a more important factor in the problem of feeding the people, it seems particularly appropriate to study some of the activities of Ecuador. During recent years vast quantities of Ecuador's delicious fruits and vegetables have found a ready market from Colombia to southern Chile, and especially the visitor to the rainless parts of Peru and Chile is pleased and often surprised to find such tropical delicacies. As demand increases, the products of Ecuador are finding a still wider market, and a striking illustration of this fact is the regular supply of potatoes that the Ecuadorian Republic is now sending to the Panama Canal Zone to feed thousands of people.

In considering Ecuador's enterprise it is interesting to study the country's natural features that lie at the very foundation of future possibilities. Apropos of this subject the well-written article of Mr. Jordan Herbert Stabler,¹ F. R. G. S., which appeared in the Journal of the Royal Geographical Society, London, for the month of October of the present year, contains many interesting features. Mr. Stabler, it will be recalled, was secretary of the United States legation in Quito for several years, and at intervals during that period he made excursions into various parts of the Republic for the purposes of study and observation; and the article in question bears the stamp of the careful student rather than that of the average person who bases his observations on a sojourn of only a few days or possibly a few weeks. To quote Mr. Stabler:

Ecuador is divided into three distinct divisions from west to east, clearly defined by the great Cordilleras of the Andes. They are the Pacific littoral sloping up to the western range some 60 to 80 miles; the great Inter-Andine plateau, at an altitude of from 7,250 to 9,200 feet, in some places over 100 miles broad, fertile, cultivated, good grazing country; and, thirdly, the country known as the "Oriente" stretching from the Eastern Cordillera to the farthest border of Ecuador, tropical jungle country, unexplored to a great extent, and known only to natives, to a few travelers, to the Ecuadorian officials at government posts, and to the "Caucheros," rubber hunters, who make a yearly trip to the interior.

From Guayaquil, the principal port of Ecuador, on the Guayas River, 2° south, the journey to Quito, the capital, is now made in two days by the Trans-Andine Railroad, a much easier trip than in Whymper's time in 1880, when it necessitated from 6 to 15 days by mule, according to season, over almost impassable trails, with no accommodation, and with but little or no food to be found on the way. Nevertheless the trip is still full of interest and of the unexpected.

* * * * *

From the banks of the Guayas River the railway runs inland some 60 miles through coco, banana, and tagua plantations, and through thick tropical jungles, abounding

¹ At the present time Mr. Stabler is the chief of the Latin-American Division, Department of State, Washington, D. C.



SCENE ON THE GUAYAS RIVER AT GUAYAQUIL.

In the foreground may be seen a few of the many rafts that are floated down the river loaded with bananas and other tropical fruits. At Guayaquil the fruits are taken aboard ocean ships for foreign markets, especially for the rainless region of the Peruvian and Chilean coasts.



DURAN, THE RAILWAY TERMINUS OPPOSITE GUAYAQUIL.

The Guayas River here is nearly a mile wide, the city of Guayaquil being on one side and Duran on the other. On the adjacent waters more than 90 per cent of the foreign commerce of Ecuador passes in and out of the country.



THE DEVIL'S NOSE, GUAYAQUIL, AND QUITO RAILROAD.

In the climb to the little station of Palmar, 10,626 feet altitude, the traveler passes over the famous Devil's Nose. Here a zigzag system of railroading lifts the train more than 1,000 feet in a very short distance. Three different altitudes of the road may be seen in the picture.

in palms of all descriptions; and then begins to ascend the Andine slopes through the valley of the Chan-chan River, which has its source in the lower hills of Chimborazo. Reaching the outer walls of the Cordillera it quickly mounts to the high plains by means of a "switchback" track cut into the side of an almost perpendicular cliff by a skillful feat of engineering..

The western wall of the Andes once surmounted, the track runs north, crossing at an altitude of 11,362 feet the sandy wind-swept plain known as the "Grand Arenal," which is, at almost all seasons of the year, a prey to the snow and wind storms that come with deadly blasts from the high slopes of Chimborazo. Here, in the days before the railway, many travelers were frozen to death in the severity of these storms.

Leaving the sandy plateau and winding through the valleys of the outlying slopes of the mighty Chimborazo, the railway at length comes out upon a broad plain, at the end of which is the capital of the Province of Chimborazo, Riobamba by name, a quaint old colonial Spanish town, with streets exceptionally wide as precaution against earthquake, built on sandy soil, at an altitude of some 9,030 feet. Here the night is passed, for traveling by rail at night in Ecuador is not considered safe. The volcano of Altar, rising to 17,730 feet according to the observations of Reiss and Stübel, lies almost due east of the town and surmounts this part of the eastern Cordillera.

From Riobamba the railway passes due north along the Inter-Andine plain, leaving the great mass of the ranges of Chimborazo to the west until it reaches the town of Ambato. From this point the roadbed descends a little until the town of Latacunga is reached, and, passing over the Paramos of Cotopaxi, winds up through the ridges of the eastern slopes of the Andes, where an excellent view is obtained of the great peaks of Iliniza, Corazon, Antisana, Ruminahui, and Atacazo. The run into Quito from there on is down grade, and one arrives at the station on the outskirts of the town in the late afternoon of the second day of the journey.

Quito, the capital of Ecuador, is at an altitude of 9,342 feet, according to the observations of Whymper, while the survey of the railway engineer makes it some 250 feet higher. It lies close south of the Equator at a distance of about 15 English miles. It is beyond doubt one of the most interesting and picturesque cities in the Western Hemisphere, for it still retains the charm of colonial days, and the oftentimes unattractive modernizing influence of the outside world has as yet touched it but lightly. The northern capital of the Inca Empire, captured by the Conquistadores after their almost unbelievable marches over the Andes, the seat of the viceroyal governor of the presidency of Quito, the scene of some of the earlier of the attempts for independence, and, after the formation of the Republic, the theater of much political activity, Quito has a history of great importance in the development of Spanish America.

The many plazas; the monasteries of the Dominicans, the Mercedarios, the Franciscans, and other of the great orders; the great patios of the houses of the descendants of noble Spanish families; the religious processions frequently passing through the streets; the variegated color scheme formed by the bright ponchos of the Indians of the city and the orange-colored macanas of the people of the hills and north country, imprint an indelible picture upon the mind. Looking down upon the city from the slopes of the volcano of Pichincha—the mountain which dominates the town—one sees below a wide extent of closely joined roofs, with here and there the tower of some great church or monastery; for Quito is for its size one of the strongest Catholic cities in South America, having some 200 churches, chapels, and monasteries. The city covers a wide area; but it is very difficult to form an idea of its population, as is so often the case in Spanish-American cities where no regular census can be taken.

* * * * *

Quito has one of the most regular climates of any capital in the world, and this has been proved by the observations made at the observatory erected by the French mission in the park of the city. The mean annual temperature is 58.8° F., the maximum annual is 70°, and the minimum annual is 45°. The average range in the 24 hours is some 10°.



COCONUT TREES AND TROPICAL VEGETATION ALONG THE GUAYAQUIL AND QUITO RAILROAD.

Before reaching the mountains the railroad traverses a low, level country abounding in tropical products, contrasting greatly with the barrenness of the mountains.



A TRESTLE ON "THE NOSE"—GUAYAQUIL AND QUITO RAILROAD.

In some cases the grade is 4½ per cent with 29° curves—facts that indicate the unusual engineering difficulties met and conquered.



A MOUNTAIN STREAM PASSING INTO TROPICAL VERDURE.

From this and other streams flowing down from the mountains the new water supply of Guayaquil is obtained. In the picture we have a view of a small dam under construction a work that was done in order to make a test of the supply and properties of the water.



THE FOUNTAINHEAD OF AN IRRIGATION SYSTEM.

In various parts of the country irrigation has been adopted, thereby making ranches and field crops highly profitable. Numerous mountain streams provide an ample water supply.

During the two years I spent there I found that I never had to worry about what the weather was going to be. One rarely made a mistake, as the weather conditions seemed to change as if by clockwork. In the summer months, from October to April (the rainy season), the rain commences to fall in a torrential downpour regularly at a little after 2 p. m., and by 5 or 6 it has usually cleared off and the nights are almost always cloudless. From May until the latter part of September it is clear and very dry, and quite cold in the early morning and late evening. I have known an occasional shower and once or twice a hailstorm in the winter months. There were very few rainy mornings, even in the wet season, during all the time I was in the highlands of Ecuador, and I noted very few days when it rained all day even in the middle of the wet season. Hailstorms are fairly frequent, but only last for a quarter to half an hour.

My travels from Quito into the little-known parts of the Republic were almost always made with Dr. Pierre Reimbourg, a Frenchman, who has spent some years in Ecuador and has made observations for the Ministère de l'Instruction Publique, and with M. Paul Suzor, the secretary of the French legation. These companions of many excellent and interesting expeditions are both serving their country at the front, and I have no doubt that they are as hardy and unflinching in the supreme test as they were in former moments of minor difficulties on the Andine trails.

One of the most interesting trips which may be made from Quito, in a very short time and with but little hardship, is the ascent of the now extinct volcano of Pichincha, the summit of which is at an altitude of 15,918 feet. The ascent may be made to one of the lower peaks almost all the way on horseback, and if one goes the night before to a hacienda some three hours from the city one may sleep there and go up to the summit and back in a day.

* * * * *

As one climbs over the outlying slopes a superb view of the Andine plain is obtained. A large waterfall is passed far up the side of the mountain, and one reaches quite soon a height overlooking a sea of clouds.

The expedition necessitates much more time if one desires to make a descent into the crater of the now extinct volcano. Guides must be procured and a camp made just below the summit of the Guagua Pichincha, one of the two peaks of the mountain. According to the observation of Dr. Reimbourg, the diameter of the crater is about 1,500 feet, but it was impossible to obtain an exact measurement, as the clouds prevented observations to a great extent. The greatest depth of the crater, according to Prof. W. Jameson, who visited Pichincha, is 2,460 feet. One may descend by means of ropes to a floor some 500 feet in depth, where there are traces of sulphur and some small shrubs.

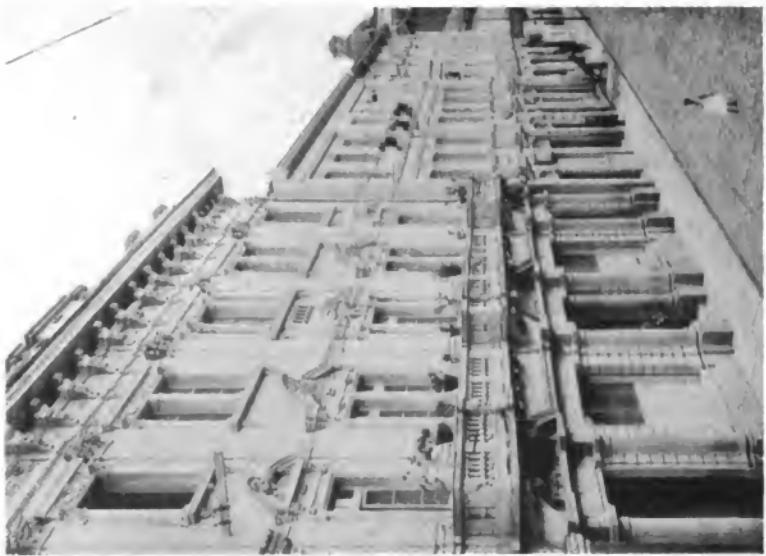
A two days' journey to the northeast brings one to the great mountain of Cayambe on the Equator. For several miles the route follows the Camino del Norte, which runs from Quito to the Colombian frontier and then on to Santa Fé de Bogota, a journey of some 35 days on horseback. It is always full of interest and typical of the life in the high Andes. Natives in bright costumes, women with babies on their backs, and men bending under their loads, which are held by a broad strap over their forehead, are continually passing or are to be seen drinking "chicha," as the national beer is called, at the little posadas on the side of the road. Leaving the Camino del Norte, the road to Cayambe runs to the east and crosses the great "quebrado" of Guallabamba, 7,200 feet, which Whymper considered to be the biggest earthquake fissure in equatorial America. In this valley are grown sugar cane, chirimoya, lemons, and other fruit of the Temperate Zone.

Cayambe is a wonderful mass, rising to an altitude of 19,186 feet, in the eastern Cordillera. It is so immense that one easily imagines that it covers the greater part of the northern half of the Republic. Its lower slopes are considered among the best pastures in the highlands and great herds of cattle and Ecuadorian horses graze here.

A VIEW OF QUITO.

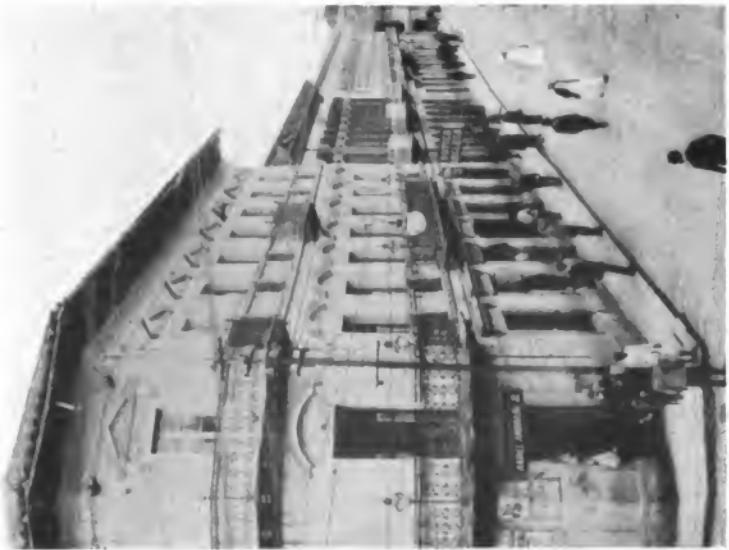
Quito, long before the arrival of the Spaniards, was a famous center of Inca civilization. To-day it has many relics of the past, but advancing civilization is bringing modernizing influences, such as electricity in manufacturing, motor vehicles, and direct railway connection with the country's other port, Guayaquil.





STREET SCENES IN QUITO.

Quito, with its 60,000 population, is one of the most interesting cities of South America. It stands about 9,300 feet above the level of the sea, is only 16 miles south of the Equator, and has a climate of perpetual spring.



Some Ecuadorians say that there are over 40,000 head of cattle on the haciendas on the slopes of the mountain.

The smaller variety of the Ecuadorian deer are to be found in the paramos of Cayambe (9,000 to 11,000 feet) and are tracked with the aid of the big hounds bred on this mountain. The natives of this region are good hunters, and one is surprised at their hardiness and strength. The typical costume is a pair of cotton trousers and a cotton shirt and one or two ponchos of varying thicknesses. They all wear the native sandal "alpargata" and a wide felt hat. But in spite of the thinness of their covering they never seem to feel the extreme cold of the paramos.

Speaking of another journey into the interior of Ecuador, Mr. Stabler makes additional interesting observations, in which he says:

We left Ambato at 6 a. m. by the road leading to the east. Winding up out of the valley of the Rio Ambato one obtains an excellent view of the mountains of Chimborazo and Tunguragua, and looking down upon the town all that was seen was a green spot in the waste.

The trail to Pelileo runs southwest from Ambato through almost desert country. Both sides of the sandy road are lined with cactus plants and a species of American aloe. The air is exceedingly dry and the glare of the sunlight so strong that I found a pair of smoked spectacles and a sun helmet indispensable. Ecuadorians cover their faces with veils or with large handkerchiefs when traveling through this country.

Pelileo, which we reached at midday, is a small town with some 1,500 to 2,000 inhabitants as far as we could ascertain. Its principal houses and churches are built of a volcanic rock and gray pumice stone. It is an old Spanish town, and some of the churches are good examples of colonial architecture.

On the banks of a small stream which, flowing from a spring in the ridges above Pelileo, runs into the Rio Patate we stopped for lunch and lifted our cups and drank to the Amazonas, for were we not practically at its very headwaters? The Patate flows into the Pastaza, the Pastaza into the Maranon, and the Maranon farther along its course becomes a part of the Amazon itself. Following the course of this stream we came to the Rio Patate, which we crossed and continued along its valley, which is beautiful and enjoys a delightful climate, being some 3,500 feet below Quito and sheltered from the cold winds by the ridges of Tunguragua, which, with its snow-capped peak, towers far above this region. In this valley coffee and sugar cane are grown in abundance, and one of the wealthy families of Quito owns several haciendas along the banks of the river. Not far from the junction of the Rio Patate and the Rio Chambo, which unite to form the great Rio Pastaza, the trail ascends from the valley and follows the contour of the slopes above the "Puente del Union," as the bridge at the meeting place of the two rivers is called. It then leads along the hills above the Pastaza, being in some places almost impassable, and farther on winds down to the bank of the river. The Pastaza is crossed a mile and a half from Baños by means of a small bridge across the gorge, 300 feet deep, which it has cut through the solid rock, and where it rushes through the narrow channel churning up white foam.

* * * * *

From another part of Mr. Stabler's interesting paper we gain an insight into certain localities of the primeval forest region of the upper Amazon, concerning which he writes as follows:

From Baños I set out to the east over the Oriente trail which leads to the village of Canelos on the Rio Bombonasa. The road, which is passable for mules as far as the waterfall of Agoyan, keeps close to the banks of the Pastaza after leaving the town. There are three bridges over the river just below Baños. These are some 250 feet above the river, and are built by means of great logs pushed out from each side, and



INDEPENDENCE PLAZA, QUITO.



A PICTURESQUE VIEW NEAR QUITO, SHOWING A SECTION OF MOTOR-CAR HIGHWAY.



SUBTROPICAL VEGETATION AT AN ALTITUDE OF 4,000 FEET.



A DISTANT VIEW OF MOUNT CHIMBORAZO.

This mountain stands 20,500 feet above the level of the sea, and on very clear days it is possible to see its snowy peak from the ship on the Pacific.

another log or two logs spliced together between. It is rather ticklish work crossing them, especially if there is a strong wind in the gorge, as often happens. The road leads close by the river, through sugar-cane plantations, with here and there a "trapiche," or cane mill, by the side of groves of plantains and palm trees and by patches of camote, as a vegetable of the potato family is locally known.

Some miles farther on the Pastaza is crossed by a well-built bridge constructed by Padre van Schoote, and the waterfall of Agoyan is reached. This point in the trail is at an altitude of about 5,500 feet. This waterfall is the largest in the Oriente, and as the river has cut a deep channel into the solid rock and comes down with great force, it is a beautiful sight from the trail. This waterfall marks the beginning of the Montaña of Canelos, the entrance into the real Oriente.

The Montaña of Canelos, the forest on the edge of the Amazon plain which Richard Spruce, according to Mr. Wallace's "Notes of a Botanist," claimed was "the most cryptogamic locality on the surface of the globe," is bounded on the west by the volcanoes of Cotopaxi, Llanganati, and Tunguragua, and on the east by the slopes of the Amazonian lowlands. Through this forest Gonzalo Pizarro wandered nearly two years in search of cities "as rich in gold as those of all Peru," and returned with only 80 members out of a company of Spaniards and natives numbering 4,500. Ferns, mosses, and lichen grow in the forest in great profusion. Of the ferns the genera *Marattia* and of the mosses the genera *Hookeria* were most abundant.

After leaving Agoyan the trail becomes but a track 3 feet wide, very rough, and with deep mud holes, and the progress is slow. The undergrowth is very thick, all of the jungle is moist, and it rains at frequent intervals. There is a light mist continually overhead. The palm trees are numerous all through the region. Spruce found that the *Iriartea ventricosa* was the most abundant species. There are also some wax palms, the *Iriartea andicola*. There are many plantains, and the undergrowth is very thick. In the season I was there I noticed very few orchids. Several small rivers are crossed on the way from Baños to the Rio Verde, notably the Rio Blanco and the Río Verde Chico, but all may be forded.

At 15 English miles from Baños the Rio Verde Grande joins the Pastaza, and near its bank there is a "trapiche" for grinding sugar cane and making aguardiente. This is the last building to the east in the Montaña of Canelos with any architectural pretensions. These 15 miles from Baños to the Rio Verde are the longest I have ever traveled, for the mud of the narrow trail is so deep and sticky that to go a mile sometimes takes over an hour. In the bad rains the trip can hardly be made under two days, and this trail is typical of all trails in the Orient. One must travel as lightly equipped as possible.

The Rio Verde, as its name implies, is of a deep green color, and flows due south from the Llanganati Mountains along a steep valley, the course of which has yet to be explored. The junction of this river with the Rio Pastaza is remarkable, for it comes with great force down a hanging valley whose sill is some 60 feet above the bed of the Pastaza. The momentum of the water carries it across, forming an arc, which cuts the far bank of the Pastaza where it has eroded a bay, whence the water of the Verde is turned into the Pastaza.

* * * * *

In closing his article Mr. Stabler pays a tribute to Ecuador and at the same time sounds the siren of possibilities that beckon the pioneer in various lines of endeavor.

To the geographer, the traveler, and explorer Ecuador presents a great range of interest. Most of the country has not been mapped, a great deal is still unexplored, and a vast amount of valuable work remains to be done. In concluding this paper I wish to add that I most heartily recommend the "Switzerland of the Americas" as a field for geographical investigations, the result of which, I feel sure, will be of lasting service to science.

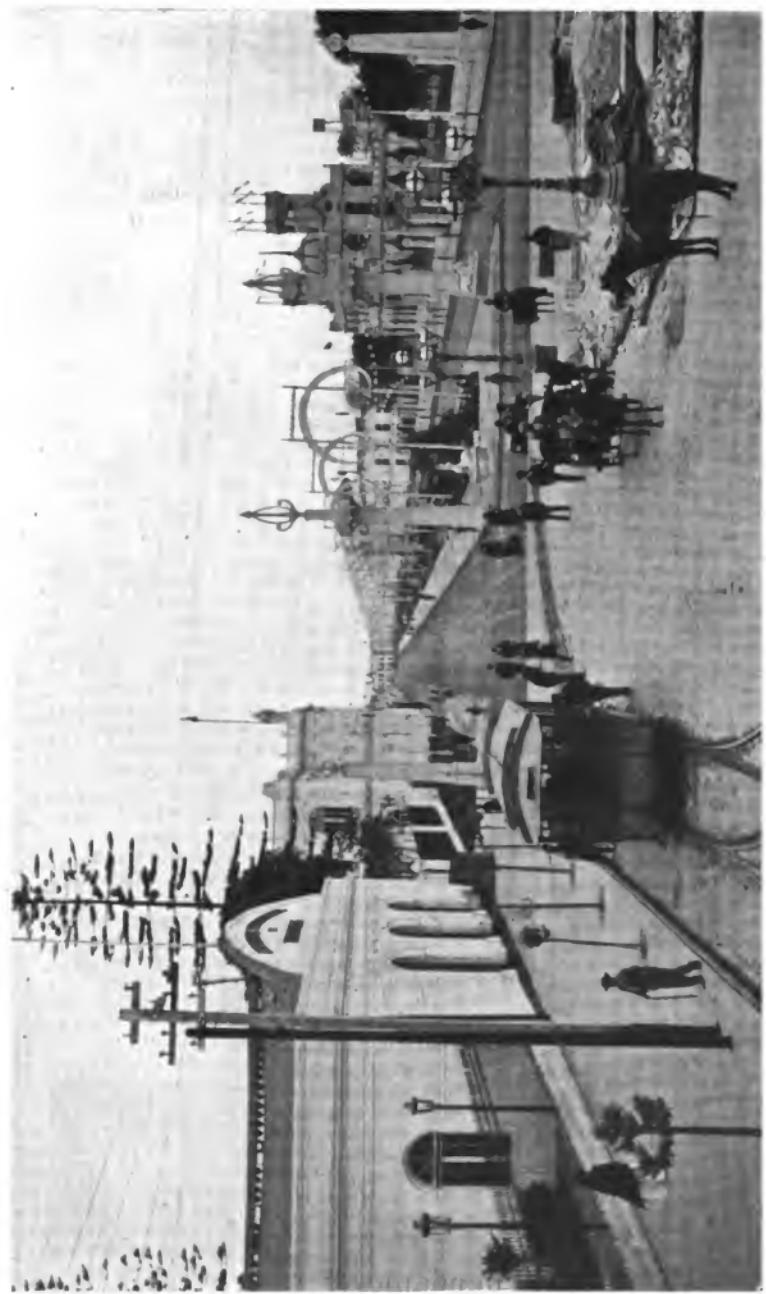
PERUVIAN PROSPERITY¹

AMID the appalling gloom now casting its shadows over so many regions of the world, it is reassuring and inspiring to glance at a country whose citizens are more busily engaged than ever before in peaceful toil. Furthermore, it is interesting to note that figures record the greatest business activity ever enjoyed, a fact of peculiar significance to nations embroiled in war. We refer to Peru, a land which many people associate only with lofty mountains, precious minerals, and ancient civilization. To be sure, this country still and probably always will retain such characteristics; but in addition, Peru is now growing larger supplies of foods and clothing materials as well as becoming a more potent factor in producing other commodities of world-wide demand. Indeed, the progress of Peru, especially during the last two years, has been bordering on the remarkable, as we shall see from a very brief consideration of underlying conditions.

It must be highly gratifying to every liberty-loving Peruvian to realize that his country stands to-day among the nations that are freely outpouring their riches to war-harrassed countries—supplying foods that succor the hungry and minerals that vitally aid in the struggle for peace among men. It is no wonder, then, that the latest message of President Pardo, delivered a few months ago before the Peruvian Congress, reflected a gratifying economic condition at home and a worthy respect abroad.

As the traveler journeys here and there in Peru to-day, he is confronted with evidences of growth; of better conditions, of preparations for future development. For illustration, take Arequipa, the southern metropolis of Peru. The visitor of a few years ago arriving by train was met at the depot by the old-time coach, whose steeds were whipped to a furious gallop as over the cobblestone streets the Gehu driver guided his team toward the adobe building that served as a hotel. To-day instead of this rough and somewhat exciting ride the visitor to Arequipa is conveyed from station to hotel in a modern automobile, or by the street cars, whose motive power recently passed from the horse to the more powerful electric current. The Plaza de Armas, which we knew a few years ago as surrounded by one-story shops, has received the touch of the magical wand; and in place of the out-of-date buildings we find edifices more or less imposing and rising in height to two or three stories. New hotels and better restaurants please the newcomer and induce him to prolong his stay; the motor vehicle is becoming a common conveyance, and

¹ By William A. Reid, Pan American Union staff.



PASEO COLÓN, ONE OF THE PERUVIAN CAPITAL'S NEWER AVENUES.

Along this beautiful avenue many costly structures have been erected during recent years. In the late afternoon and evening the wealth and culture of Lima may be seen walking, motoring, or driving along its course.



SCENES IN THE CAPITAL CITY OF PERU.

Upper: The Plaza de Bolívar, named in honor of the Peruvian hero, and a section of the city in which magnificent residences are being erected. Center: The large edifice fronting on Paseo Colón which contains one of the world's most interesting museums. Many articles made by ancient peoples are well preserved in this building. Lower: The Institute of Hygiene, a new structure devoted to scientific research and the improvement of public sanitation, etc.



Photograph by W. V. Allord.

A GLIMPSE OF SOME OF THE HIGHEST AGRICULTURAL LANDS OF THE WORLD.
These are Andean potato fields, ranging in altitude from 14,000 to 15,000 feet above sea level. It requires in this altitude from 8 to 9 months for potatoes to mature, and the laborers are naturally endowed with unusual lung power to stand the exertion of working in the fields.

at least a nucleus of modernly paved streets offers a course for pleasant driving.

Various other cities and towns reflect the progress of the last year or two. Lima naturally has been made more interesting and attractive to the visitor by reason of better paved streets, good hotels, fine shops and the introduction of a larger number of automobiles, the latter being especially serviceable for the transient guest who desires to see as much of the historic surroundings as is possible on a brief sojourn.

The linking of Lima with the suburban and seaside resorts of Chorillos, Barranco, Miraflores, Callao, and La Punta by an improved speedway called "Miramar," is gradually extending the use of automobiles. This avenue is 45 feet wide, a motor course occupying about half of the space, while other parts are set aside for slow vehicles, pedestrians, etc. Stately trees already adorn miles of this new roadway, and irrigation ditches supply the moisture for trees as well as for the many small truck farms one sees along the route.

The subject of improved highways is one that has absorbed much attention in Peru within the last year or two, and numerous ambitious plans have been made for connecting various interior towns by bettering the roads, thereby permitting the more general use of the automobile and the motor truck. Few of us who are familiar with the difficulties of traveling over the lofty Andes can realize that to-day one may ride into the "Timbers of Tarma" in a modern motor vehicle; yet such is the fact. Indeed, trucks and passenger cars are in regular service between Tielarnioe, a station on the Cerro de Pasco Railway, and Tarma. The latter is situated on the eastern slope of the Andes, from 25 to 30 miles from the railroad. By mule train in the past one was compelled to spend at least a day in making the journey; with the passenger automobile this time is now reduced to three hours, and the fare to about \$5. Verily the toot of the motor horn and the echoes of the modern sawmill are jointly awakening this eastern region of Peru from primeval lethargy to commercial activity. At least half a dozen of the leading motor cars manufactured in the United States are now serving as freight and passenger carriers in the above region, and the motorcycle is also in evidence. These machines are indeed revolutionizing industry and causing improved highways to be constructed, an enumeration of which would be too lengthy for this article.

Peru, in her gigantic mining industry, has found it necessary to make use of domestic lumber supplies which exist in the Tarma region. Instead of importing vast quantities of Oregon and California woods, as in the past, for railroad ties, mine operations, and other uses, the companies have found that the motor car and the highway largely solve the question. Moreover, the day is dawning



A SCENE IN THE MINING REGION OF PERU.

The extreme ruggedness of the Andes often necessitates aerial tramways—a cheaper means of delivering ores to railway stations or to the mills.



A GLIMPSE OF MINING ACTIVITY.

Upper: Properties near Lake Titicaca in southern Peru, the output of which passes over the railway to the port of Mollendo. Lower: A scene near Tamboras where the very important tungsten ores are concentrated.

in Peru when the house built of mahogany for use of the manager of mines gives place to construction materials of less value but of quite as much utility—or shall we term it lumber conservation?

A glance at commercial statistics shows the tendencies of the times or indicates the facts upon which this article is based. During the last normal year (1913) Peru's total foreign trade amounted to slightly more than \$74,000,000. Add 65 per cent to this sum and we have the approximate amount of the country's international commerce for 1916, or, to be more accurate, an amount represented by the figures \$122,753,634. Furthermore, Peruvian importers increased their purchases last year 180 per cent over those of the preceding year, and bought more than \$42,000,000 worth of foreign goods. In sending raw supplies to the world, Peru in 1916 increased the amount by about 43 per cent, or exported, in round numbers, \$80,000,000 worth of products.

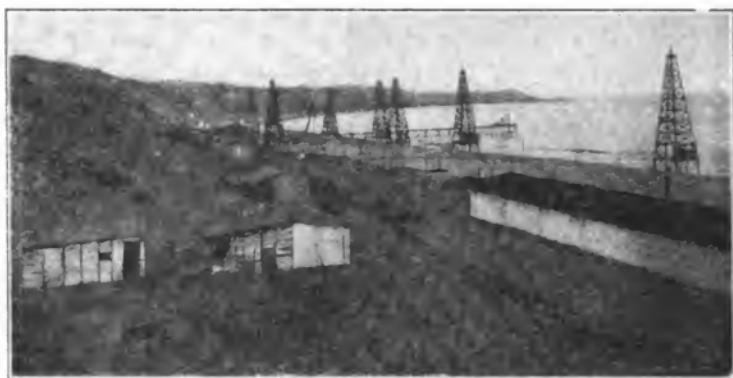
Why did Peru experience this unusual commercial activity? Briefly, because the country possessed the materials needed all over the world—a demand especially pronounced by reason of the great war. An abnormal rise in the value of minerals and of agricultural crops also figures conspicuously in connection with Peru's prosperity.

In the United States to-day supplies of sugar are closely guarded; and in some places, as everyone is aware, it has been found necessary to restrict the sale to very small quantities. This condition has been growing more acute, and Peruvian planters seem to have anticipated the demand. At least they have increased the production of sugar from year to year for the last four years or longer, the output for 1916 being more than 270,000 metric tons. The value of sugar exported to the United States was over \$7,300,000.

Peruvian sugar-cane planters raise their crops almost wholly by irrigating the lands, the rainfall in the cane region of Peru being negligible. This fact may or may not be a handicap, for irrigation is virtually a certainty, where rains, which many countries depend upon, are quite often a disappointing feature in agriculture.

Considering Peru's 500,000 or more acres under sugar-cane cultivation, the average production of sugar is usually more than four tons per acre; and this figure, it appears, is surpassed by few, if any, other countries of the world (Hawaii excepted). Peruvian soil is peculiarly suited to sugar-cane growth, and approximately 100 different estates are engaged in the industry.

A visit to a Peruvian plantation is highly interesting, and the estate of President Pardo's family, called Tumán, furnishes a typical illustration. This plantation, containing more than 15,000 acres, is located about 50 miles inland from the little port of Eten, in northern Peru. Only about 6,000 acres were under cane cultivation when the writer was there, and an annual production of about 15,000 tons



PETROLEUM AND WOOL INDUSTRIES IN PERU.

Upper: A few of the oil wells in the Zoritos district, northern Peru. Petroleum development promises to be more active in this country than ever before and demand for fuel and other oils has enormously increased. Lower: Interior view of a section of a wool warehouse in Lima. Peru not only has the wool of her vast herds of sheep but of such other animals as the alpaca, the vicuña, the llama, etc.



TWO GREAT INDUSTRIES OF PERU!

Upper: An interior view of a foundry in Arequipa, the southern metropolis of Peru. Lower: A cotton mill located in Arequipa, which turns out large supplies of the finished product.

of sugar was the result, although portions of the estate yielded as much as six tons per acre. On this estate as well as on others we find the most modern machinery and specialists in sugar production, whose training and experiences have been acquired in various sugar-producing lands; in not a few cases the plantation managers have studied sugar growing in Java, Hawaii, the Southern States of the United States and elsewhere. In 1915 there were about 22,000 workers engaged in raising Peru's cane and sugar, and to-day the number is placed at several thousand additional men and women. The promulgation of recent labor laws, which in various ways give more freedom to the plantation laborer, have already resulted in improved conditions.

Very naturally Peruvian minerals and oils have claimed more serious attention than ever before, and the outputs in general have been correspondingly increased. The universal call for copper was answered vigorously by the several companies operating in Peru, and the output for 1916 amounted to more than 41,000 tons, of which two great corporations produced 95 per cent of the whole. Approximately speaking, Peru sent to the world almost double the amount of copper she supplied in normal years, and as the price of copper is far above \$600 per ton, the revenue to the operating companies from this one mineral rises to an enormous value. The export tax on copper also supplies to the Government a revenue of rising value, the amount collected for the year of 1916 being more than \$1,425,000. Estimates for the present year are considerably greater, as the leading company operating copper mines has largely increased its output and in one recent month reached the high-water mark of production—7,259,000 pounds.

The activities of this great corporation furnish excellent examples of what may be accomplished when capital and modern skill are combined with the natural resources of Peru. Indeed, so successful has been this corporation that it should be an inspiration to financiers to give greater heed to the call of Peru's hidden riches. According to Peruvian newspapers, the Cerro de Pasco Corporation and its affiliated companies have 20 square miles of mineral lands, which, added to certain ranch, timber, and coal properties, water rights, etc., approximates an area of more than 100 square miles. This aggregation of capital, it is stated, has a fund of \$23,000,000 operating mineral concessions in Peru.

The earnings for 1917, according to Peruvian papers, are expected to reach \$13,000,000, or more than \$1,000,000 a month; and the dividends are likely to be most gratifying, not alone to stockholders but in tax returns to the Peruvian Government.

Public-spirited men of Peru anticipate important economic results from the new bill recently introduced in the Peruvian Senate, which

AN AGRICULTURAL VALLEY WEST OF THE ANDES.
The gentle slope of the coastal lands from the foot of the mountains to the Pacific offers simplified irrigation methods, a feature of agricultural development that is especially marked in Peru.





Photograph by W. V. Alford.

PHASES OF PERU'S AGRICULTURAL ACTIVITIES.

Upper: The mills of Sausal. Here the cane has just arrived from the field and is being transferred from cars to factory. Lower: A scene in the region east of Tarma, showing a plantation home and its many surrounding buildings.

has for its object the ending of differences between petroleum operating companies and the Government. Doubtless the petroleum industry of Peru would have been much more active during the past year but for the check on operations above mentioned. With the passage of the new bill, which may be an accomplished fact ere these lines are read, the course will be open for unlimited development of Peruvian oil lands; and the constant and increasing demand for petroleum and its products in Peru and along the entire south Pacific coast will doubtless be eagerly if not adequately met.

Peru's vast petrolic zones lie near the coast in the northern part of the Republic, and the proposed law provides for the scientific development of the various deposits, with a graduated revenue to the Government based on the gross output of the wells.

The increased growing of cotton during the last few years has aided Peruvian prosperity. Statistics indicate a large increase in most of the varieties grown, among which are Egyptian, lint, aspero, sea-island, mitafifa, etc. Cotton seed, cottonseed oil, and cottonseed cake also show substantial gains, especially during 1916 as compared with the preceding year. Cottonseed exports alone amounted to more than \$1,000,000 in value in 1916, while those of the previous years represented not quite half that amount.

The past year witnessed in Peru the promulgation of a new agricultural loan law, whereby farmers and stockraisers may obtain loans on agricultural implements, live stock, growing fruits, lumber, dairy products, and other properties. The debtor is allowed to retain the use of said property but must permit free inspection of same at any time if the debtor so desires. Interest must not in any case be greater than 4 per cent above the banking rate in the community. These loans, it appears, have greatly aided the poorer classes and encouraged them to more activity.

While busily engaged in promoting commercial development, Peruvian officials have not been unmindful of the country's youth. In line with efforts of various other nations to combat the ill effects of excessive alcoholism, we note that Peru offered a prize of \$500 for a textbook on temperance suitable for use in the public schools. In another line of training the Peruvian Government provided 25 scholarships in arts and trades for students from various parts of the country, who will gather at the capital city where facilities for instruction in such important branches of learning are available. The expense of the student will rest on the Government, but in return for this privilege the student is required to serve the Government for a period of time equal to the term of scholarship.

Many descendants of ancient Peruvian families are by nature apt in the manipulation of tools and implements, and with the facilities



A SCENE IN THE TOWN OF TARMA, IN THE EASTERN ANDES.

Automobile trucks and modern sawmills have been introduced into this region of Peru in recent years. The scene depicts a portion of an ancient highway over which motor trucks are operated with good results. We also have a glimpse of a few of the fine trees which are typical of the region.



A GLIMPSE OF HUANUCO, STILL FARTHER EASTWARD ON THE SLOPES OF THE ANDES.

Many travelers bound over the Andes to the far eastern Peruvian rubber center of Iquitos pass through this picturesque village. Plans have been made for the construction of a railway to the Ucayali from a point on the Oroya Railway, which will tap this virgin region.



A ROAD THROUGH A VIRGIN REGION EAST OF THE ANDES.

It is this and similar regions that Peru is gradually connecting with the railways by means of better roads and, in some cases, by roads that offer automobile traffic routes.

thus publicly provided it is believed that not a little latent talent will be unearthed, to the advantage of both the individual and the country at large. As an evidence of this native skill in the manufacture of useful articles it is only necessary to examine some of the products displayed in the shops of any Peruvian city, especially in Lima.

The unusual amount of Peruvian business, only a few general phases of which we have herein noted, very naturally is reflected in the improved financial situation of the Republic both at home and abroad. The taxes received on exportation were in excess of estimates "and the balance of the financial institutions of the Republic show an increase of about \$6,000,000 in 1916 over the preceding year." On the whole, Peru has been in a position to pay on the public debt of the country more than \$3,724,000 within the last few years or since the beginning of the administration of President Pardo. This satisfactory showing is emphasized in the lengthy and admirable annual report of Hon. William W. Handley, United States consul general at Lima, in which this official enters into many details relative to what might be aptly termed a new era of progress in the ancient land of Peru.

MR. ROOT ON THE MONROE DOCTRINE

SECRETARY of War in the Cabinet of President McKinley from August, 1899, to February, 1904; Secretary of State in the Cabinet of President Roosevelt from July, 1905, to January, 1909, and Senator from the State of New York, 1909 to 1915, the Hon. Elihu Root during the period of 16 years represented by his public service in the three capacities named, lubricated the international relations of the United States more fully than any other man within the last half century. The 24 addresses contained in the volume now published,¹ compiled, and edited by the Hon. Robert Bacon, successor of Mr. Root in the office of Secretary of State and the Hon. James B. Scott, Solicitor of the Department of State (during the period when Mr. Root was the head of the department) cover a broad range of international law and policy in general and in particular. All of the addresses were delivered between April, 1907,

¹ Addresses on International Subjects, by Elihu Root, collected and edited by Robert Bacon and James Brown Scott. Harvard University Press. 463 p. 8°. Price, \$2 net.

and April, 1916, and six of them since the outbreak of the war in August, 1914. The titles of the addresses are:

1. The Need of Popular Understanding of International Law.
2. The Real Questions Under the Japanese Treaty and the San Francisco School Board Resolution.
3. The Sanction of International Law.
4. The Relations Between International Tribunals of Arbitration and the Jurisdiction of National Courts.
5. The Basis of Protection to Citizens Residing Abroad.
6. The Function of Private Codification in International Law.
7. The Real Significance of the Declaration of London.
8. Francis Lieber.
9. The Real Monroe Doctrine.
10. Address at a Conference of Teachers of International Law.
11. The Hague Peace Conferences.
12. The Importance of Judicial Settlement.
13. Nobel Peace Prize Address.
14. The Ethics of the Panama Question.
15. The Obligations of the United States as to Panama Canal Tolls.
16. Panama Canal Tolls.
17. The Treaty of 1832 with Russia.
18. The Mexican Resolution.
19. The Ship Purchase Bill.
20. Second Speech on the Ship Purchase Bill.
21. The Outlook for International Law.
22. Should International Law be Codified?
23. The Declaration of the Rights and Duties of Nations.
24. Foreign Affairs, 1913-1916.

The address delivered by Mr. Root as president of the society at the eighth annual meeting of the American Society of International Law at Washington, April 22, 1914, on The Real Monroe Doctrine is one of the most, if not in fact the most, valuable of all the contributions he has made to the subject of American international relations. Yet this address contains not a new idea, not a new turn of thought, nor does it make any pretense to novelty of thought or expression. The first impression one gets from reading it is that what is said is very obvious and has been said before. Only gradually does one awaken to the fact that while this is true, it is also true that the real Monroe doctrine has been almost entirely hidden from sight under a mass of commentaries, reconstructions, explanations, expositions, and other apologetic, or antagonistic vaporings.

Representing the Monroe doctrine, on the one hand, as an international sentimentalism or a paternalistic attitude of protection coupled with pedagogic officiousness, or, on the other hand, as a weapon of power, perhaps of conquest, aimed directly at the peace and sovereignty of the Latin American Republics and so to be anathematized and abandoned, one or the other of these opinions, or some intermediate shade of opinion between the two extremes, forms about



BUST OF ELIHU ROOT,

Former Chairman of the Governing Board of the Pan American Union, Secretary of State of the United States, United States Senator, and Secretary of War, presented to the Pan American Union by a committee of New York gentlemen headed by Gen. Charles H. Sherrill of New York City. The sculptor was C. S. Pietro, and it is considered as a highly artistic likeness of the original. It has been placed upon a pedestal in the reception room of the Director General.

all that has been written or said by amateur statesmen in the United States or in Latin America for a half century on the subject of the Monroe doctrine. From underneath this heaped up mass of unintelligent propaganda and equally unintelligent criticism Mr. Root extracts the true doctrine of President Monroe. So plain, so understandable, so convincing is this presentation of the Monroe doctrine that one wonders that it could ever have been misrepresented or misunderstood. The Monroe doctrine is an assertion of the right of self-defense, that and nothing more. It is no part of international law, and from its very nature it can not be. As Mr. Root says: "It is not international law, but it rests upon the right of self-protection and that right is recognized by international law." Its essence he plainly states thus:

The most common exercise of the right of self-protection outside of a State's own territory and in time of peace is the interposition of objection to the occupation of territory, of points of strategic military or maritime advantage, or to indirect accomplishment of this effect by dynastic arrangement. For example, the objection of England in 1911 to the occupation of a naval station by Germany on the Atlantic coast of Morocco; the objection of the European powers generally to the vast force of Russia extending its territory to the Mediterranean; the revision of the treaty of San Stefano by the treaty of Berlin; the establishment of buffer states; the objection to the succession of a German prince to the throne of Spain; the many forms of the eastern question; the centuries of struggle to preserve the balance of power in Europe; all depend upon the very same principle which underlies the Monroe doctrine—that is to say, upon the right of every sovereign State to protect itself by preventing a condition of affairs in which it will be too late to protect itself.

In less than four months after Mr. Root had delivered these words France and Britain are in the field to defend their Monroe doctrine, the sovereignty and independence of Belgium, against the brutal onslaughts of German lust for conquest. Any country may have its Monroe doctrine whenever its security and safety is menaced by a powerful but not contiguous opponent. This was what President Monroe had in mind and this was what he said, "We owe it, therefore to candor, and to the amicable relations existing between the United States and those powers (European), to declare that we should consider any attempt on their part to extend their system to any portion of this hemisphere as dangerous to our peace and safety." There is nothing here denoting the paternal attitude, nothing of the school-master with stick in hand, nothing of the spirit of *Deutschland über Alles*, nothing in any way derogatory to the full sovereignty and independence of even the smallest of the Latin American countries. As Mr. Root on another occasion said:

We wish for no victories but those of peace; for no territory except our own; for no sovereignty except the sovereignty over ourselves. We deem the independence and equal rights of the smallest and weakest member of the family of nations entitled to as much respect as those of the greatest empire, and we deem the observance of that respect the chief guaranty of the weak against the oppression of the strong. We

neither claim nor desire any rights, or privileges, or powers that we do not freely concede to every American Republic. We wish to increase our prosperity, to expand our trade, to grow in wealth, in wisdom, and in spirit, but our conception of the true way to accomplish this is not to pull down others and profit by their ruin, but to help all friends to a common prosperity and a common growth, that we may all become greater and stronger together.

It is true that the first proclamation of the Monroe doctrine carried with it an implied offer of military aid to the newly liberated Spanish-American colonies against proposed aggressions by the holy alliance on behalf of Spain. In this one may discern elements of sympathy and fraternal good will. A like wave of sympathy overspread all America in August 1914 for outraged and bleeding Belgium. It overspread France and England too. Many believe it was the moving cause of England's entry into the war. Be this true or not, no man can lose sight of the fact that the German horde that crushed Belgium had its weapons poised to strike Paris and London. Self-protection alone should have been sufficient to put England and France in the field and self-protection alone was sufficient basis for President Monroe's message of December 2, 1823. It counts nothing against a set purpose to defend one's own house that in doing so one performs an act by which his neighbor is likewise defended. The purpose remains the same even though manifested in action in itself desirable. This is well put by Mr. Root:

It is doubtless true that in the adherence of the American people to the original declaration there was a great element of sentiment and of sympathy for the people of South America who were struggling for freedom, and it has been a source of great satisfaction to the United States that the course which it took in 1823 concurrently with the action of Great Britain played so great a part in assuring the right of self-government to the countries of South America. Yet it is to be observed that in reference to the South American Governments, as in all other respects, the international right upon which the declaration expressly rests is not sentiment or sympathy or a claim to dictate what kind of government any other country shall have, but the safety of the United States. It is because the new Governments can not be overthrown by the allied powers "without endangering our peace and happiness," that "the United States can not behold such interposition in any form with indifference."

Has the Monroe doctrine as expressed by President Monroe ever changed? Most certainly it has not. Mr. Root says, "We frequently see statements that the doctrine has been changed or enlarged; that there is a new or different doctrine since Monroe's time. They are mistaken. There has been no change." That the true Monroe doctrine can not be offensive to any Latin American is apparent, for, says Mr. Root:

The Monroe doctrine does not assert or imply or involve any right on the part of the United States to impair or control the independent sovereignty of any American state. In the lives of nations, as of individuals, there are many rights unquestioned and universally conceded. The assertion of any particular right must be considered, not as excluding all others but as coincident with all others which are not

inconsistent. The fundamental principle of international law is the principle of independent sovereignty. Upon that all other rules of international law rest. That is the chief and necessary protection of the weak against the power of the strong. Observance of that is the necessary condition to the peace and order of the civilized world. By the declaration of that principle the common judgment of civilization awards to the smallest and weakest State the liberty to control its own affairs without interference from any other power, however great.

The Monroe doctrine does not infringe upon that right. It asserts the right. The declaration of Monroe was that the rights and interests of the United States were involved in maintaining a condition, and the condition to be maintained was the independence of all the American countries. It is "the free and independent condition which they have assumed and maintained" which is declared to render them not subject to future colonization. It is "the governments who have declared their independence and maintained it and whose independence we have on great consideration and on just principles acknowledged" that are not to be interfered with.

Twenty months after Mr. Root had delivered this address and in the midst of the European war, on December 27, 1915, at the opening session of the Second Pan American Scientific Congress in Washington, The Hon. Robert Lansing, Secretary of State, in proposing the policy of Pan Americanism, says:

If I have correctly interpreted Pan Americanism from the standpoint of the relations of our Government with those beyond the seas, it is in entire harmony with the Monroe doctrine. The Monroe doctrine is a national policy of the United States; Pan Americanism is an international policy of the Americas. The motives are to an extent different; the ends sought are the same. Both can exist without impairing the force of either. And both do exist, and, I trust, will ever exist in all their vigor.

President Wilson in his address closing the Scientific Congress on January 6, 1916, sanctioning the spirit and policy of the new doctrine of Pan Americanism in no way loses sight of the old doctrine of Monroe, for he says: "The Monroe doctrine was proclaimed by the United States on her own authority. It has always been maintained, and always will be maintained, upon her own responsibility."

So it is true to-day as it was true when Mr. Root spoke the words, that the Monroe doctrine is the existing, vital, and unchanged purpose of the United States, on its own behalf and in its own defense, to call a halt to European aggressions in any part of the Americas.



PROMINENT IN PAN AMERICAN AFFAIRS

SEÑOR DON ROBERTO SORIA GALVARRO, the distinguished Bolivian statesman, diplomatist, and literateur, died very unexpectedly in Santiago, Chile, on November 5, 1917. Born in the year 1856, he was the son of the then president of the superior court of the District of Oruro, Don Manuel José Soria Galvarro. He received a thorough education, finishing all of his studies with the distinction of honorable mention; was admitted to the bar in 1876, and soon established a reputation as a brilliant lawyer and effective advocate. Without neglecting the claims of his profession, he took an active interest in the public and literary life of his country, becoming known as a man of advanced ideas, as a noted sociologist, as a brilliant thinker, and as a chaste and graceful writer. The political party to which he belonged, and in whose ranks he fought with enthusiasm, elected him to a seat in the Chamber of Deputies and subsequently to the Senate of the Republic, where he contributed greatly as a legislator to the notable progress made by his country in recent years. Señor Soria Galvarro rendered equally important services to his country in the field of diplomacy, whether as minister to Paraguay, as an advocate before the Arbitral Tribunal of Petropolis, or as minister to Venezuela, Colombia, and Ecuador, in all of which capacities he defended the rights of his country and contributed much to the cementing of the ties of friendship between Bolivia and the countries named. The notice of his unforeseen death occasioned widespread grief in his country, and as a special mark of esteem and as a recognition of his eminent services the Government of Bolivia ordered that the funeral obsequies should be conducted at the expense of the Nation.

MR. JAMES FLYNN STUTESMAN, formerly Minister Plenipotentiary and Envoy Extraordinary of the United States to Bolivia, died suddenly of heart disease in the lobby of a prominent hotel in Washington, D. C., on December 15, 1917. Born in Indiana in 1860, Mr. Stutesman was educated at Wabash College, from which institution he held the degrees of A. B. and A. M. In 1893 he was admitted to the bar and for a number of years was a successful practitioner in the courts of his native State. He took an active interest in national and State politics and held various minor offices prior to his appointment by President Roosevelt as minister to Bolivia in 1908. In 1910 he returned to Washington and resumed the practice of his profession. In 1913 he was made one of the United States commissioners for the Panama-Pacific International Exposition at San Francisco, and in connection with the duties imposed upon him visited the countries of Central America and the West Indies in order to arouse

increased interest in that great enterprise. He was a fluent and convincing speaker, and his talents in this direction led to his appointment as one of the prominent lecturers to arouse the interest and cooperation of the people of the United States in the matters of food conservation and the maintenance of the American Red Cross. He was an enthusiastic member of the Red Cross, and labored untiringly and zealously in its behalf, being engaged in the propaganda work of the organization when death claimed him. His genial personality and kindly nature had made him many personal friends not only in his own country but in Bolivia and other countries of the Americas where his activities had led him, and the news of his death will be noted with heartfelt regret by many people in many lands.

DR. RAMON GUITERAS, noted surgeon, author, and sportsman, died very unexpectedly at the French Hospital in New York City on Thursday, December 13, 1917. Born in Providence, R. I., in 1860, he came of distinguished Spanish ancestry. He received a thorough education, and evinced his predilection for the profession of medicine at an early age. He was apparently at the zenith of his mental and physical vigor when he succumbed to an attack of meningitis. Although his skill as a surgeon and learning as a scientist had given him international fame, his activities were not confined to his profession alone. He had served on a number of advisory commissions for the United States Government, and only about a year ago he was charged with the commission to go to Cuba for the purpose of ascertaining at first hand the sentiments of the people of that Republic in relation to the European war. His comprehensive report upon his return to the United States received wide publicity. More in line with his profession, however, were his visits to the battle fields of Europe, made with the view of studying advanced surgical methods, treatment of wounds, etc., the results of which investigations would doubtless have been incorporated in the new work on surgery he was preparing at the time when death ended his labors. He had already given two valuable works on surgical subjects to the world, but this third volume was expected to embrace much new material and striking effects resulting from the exigencies of war experiences. A graduate of Harvard Medical College, Dr. Guiteras had achieved an enviable reputation in his profession and had filled important positions in addition to enjoying a large and lucrative private practice. For some years he was professor of surgery in the Post Graduate Medical College; also director and visiting surgeon of the French Hospital; surgeon of the Italian Hospital; and one of the chief surgeons of the City Hospital of New York. For a number of years he had been the secretary of the Pan American Medical Congress, editor of *Revista Americana de Farmacia, Medicina y Hospitales*, and was also an active member of the American Medical Association,



ROBERTO SORIA GALVARRO



JAMES FLYNN STUTESMAN



RAMON GUITERAS



ALONZO D. MELVIN

Fellow of the American College of Surgery, member of the State and county medical associations, and belonged to some of the leading social clubs of New York. He was a cousin of the famous yellow-fever expert of Habana, Dr. Juan Guiteras, whose work is so well known in the United States.

DR. ALONZO D. MELVIN, Chief of the Bureau of Animal Industry of the United States Department of Agriculture since 1905, died December 7, 1917, in Washington, D. C. Born in the State of Illinois in 1862, Dr. Melvin received his degree from the Chicago Veterinary College in 1886, and from that time to the day of his death was actively connected with the Bureau of Animal Industry, which had been organized in 1884. During these years he filled various important offices in that department, being placed in charge of the Federal meat inspection at Chicago in 1892, transferred to Washington and made Chief of the Inspection Division in 1895, made assistant chief of the bureau in 1899, and finally placed at its head in 1905. Among his greatest services were the stamping out under his direction of the epidemic of the dreaded foot and mouth disease in the cattle-producing sections of the United States in 1908 and again in 1914; the eradication of the cattle-fever tick from over 51 per cent of the southern section of the country; securing the necessary legislation for efficient meat inspection; and numerous contributions of important publications dealing with meat inspection, various cattle diseases, and the results of his studies of the South American cattle and meat industry. It was in connection with the last-named subject that his activities became Pan American in scope. In 1913 he made a tour of the southern continent, and subsequently gave the results of his investigations and studies to the world in two comprehensive articles in the Yearbook of the Department of Agriculture. In these he advocated closer cooperation between the live-stock interests of all the American countries for their common benefit. At the second Pan American Scientific Congress in 1915 he presented a comprehensive paper in which he outlined a plan for dealing with animal diseases so that trade in live stock and animal products could be fostered and at the same time protection afforded against contagious diseases. He favored an organization and the enactment of laws in each country to control and eradicate animal diseases, to protect domestic animals from foreign contagion, and the exchange of information and a general cooperation among the countries through a central organization. His constructive plans were on broad lines, and his work, taken up by others, will no doubt bear rich fruit in the future. Aside from his official position, Dr. Melvin was prominent in veterinary and scientific organizations. He was president of the American Veterinary Medical Association, honorary associate of the Royal College of Veterinary Surgeons of London, and a member of the advisory board of the Hygienic Laboratory of the United States Public Health Service.

PAN AMERICA IN THE MAGAZINES :: ::

The South American Indian in His Relation to Geographic Environment is the title of an interesting paper by Dr. William Curtis Farabee, appearing in the proceedings of the American Philosophical Society, volume lvi, 1917, as follows:

Man, of whatever race, as we know him to-day is to such an extent a product of his environment that we can have very little idea of what he was in his primitive state. We sometimes speak of primitive men, but we mean men in a low stage of culture without any reference whatever to time or age. There are no primitive men, neither is there primitive culture. Both have been so modified by their environment that they give us very little idea of what the first men and their culture were like. From the beginning both have developed in complete agreement with their environment.

It is said that man differs from the other animals in that he is able to overcome his natural environment. Man has been able to profit by his knowledge of nature's laws, but he has not overcome them. He must depend upon natural products for sustenance, and hence is limited in migration and habitat. In the cold climates of high altitudes and high latitudes he is limited by his food supply to the line fixed by nature for the growth of plants and animals. In the hot, moist climate of the Tropics he is deprived of energy and ambition and degenerates. He has not yet overcome nature, but he has succeeded better than his fellows in adapting himself to nature's requirements. His individual handicap at the beginning of life makes for the greater development of his race. His prolonged period of growth allows the persistent forces of environment to act upon his developing body and fit it for its habitat. If his migrations do not take place too rapidly or do not extend over too wide a range of geographic conditions these body changes become habitual and the race survives. The new characters developed are retained. There is some question as to whether or not the characters acquired by the ancestors are inherited, but it is certain that the habitat with all the geographic factors which have produced those characters is inherited.

If the effect of environment is upon the individual and does not become permanently fixed in the race, and if it acts only as an inhibitor in the development of characteristics, it has the force of an inheritance, because it never ceases to operate. Hence the race develops true to the environment. Primitive man must have originated in a tropical but not a jungle country, where the environment made little demand upon his growing intellect. The search for food probably took him temporarily outside of his first habitat. After a time the pressure of numbers would prevent his return. His customs and habits would change to meet the new conditions. So, no doubt, he has slowly moved through the long period of his history, from one stage to another, from one environment to another, and from one development to another. These developments were not necessarily from a lower to a higher plane. He had little choice; the quest for food or the pressure from numbers either called or drove him onward from the old to newer fields. He followed the animals, and may have learned from them to build his shelter and to store his food against a future need. Necessity developed forethought and made him an inventor. The forces of nature were first feared and then followed. He became as mobile as the wind and the water by whose aid he traveled. After he had thus occupied the habitable globe each section continued to develop a culture peculiar to its own



Courtesy of the Museum Journal, Philadelphia.

A WAIWAI INDIAN IN DANCE COSTUME.

The Waiwai Indians also inhabit the section of northern Brazil immediately adjoining the Guianas. Several villages are located on the Essequibo River and not far from the Akarai Mountains.

29220—17—Bull, 6—5



Photograph by Dr. W. C. Farabee.

TYPICAL DIAU INDIANS OF NORTHERN BRAZIL.

The Diau inhabit a section of Brazil near the headwaters of the Cuiaçá River, just south of the boundary line of Dutch Guiana. The last Diau village on the Brazilian side is called Thalíno. According to Dr. Farabee, it is in latitude $1^{\circ} 50' S$ and longitude $56^{\circ} 42' W$. These Indians are among the most backward people of the continent, and with a number of other tribes occupy the only mountains in the Amazon Valley east of the Andes "which are high enough to form a barrier or undesirable enough to serve as a place of retreat."



Photograph by Dr. W. C. Farabee.

TYPICAL DIAU INDIANS OF NORTHERN BRAZIL.

The Diau inhabit a section of Brazil near the headwaters of the Cuiaçá River, just south of the boundary line of Dutch Guiana. The last Diau village on the Brazilian side is called Thalíno. According to Dr. Farabee, it is in latitude $1^{\circ} 50' S$ and longitude $56^{\circ} 42' W$. These Indians are among the most backward people of the continent, and with a number of other tribes occupy the only mountains in the Amazon Valley east of the Andes "which are high enough to form a barrier or undesirable enough to serve as a place of retreat."

environment. Every geographical factor had its influence in this development. Sea and bay, lake and river, mountain and valley, forest and desert, temperature and humidity, wind and rain, sunshine and cloud; each and all had their effect in isolating or uniting, separating or deflecting, expanding or confining the migrating peoples and in determining their physical development, their forms of culture, their economic and political organization. Man has followed no plan, has had no standards. Whatever advancement he has made has been by chance rather than by choice, by accident rather than by conscious direction.

In the migration of man from his original home, probably in southern Asia, by way of Bering Strait and North America to the Tropics again, he completed the cycle of climatic conditions. His long and varied experience had made him wise. Yet he was continually on the march. Crowded into the neck of the Isthmus of Panama he pushed on through and found another continent, which, like the one he was leaving, lent itself to a north-south migration with the routes well marked. The Orinoco, the great branches of the Amazon and the La Plata, together with the Andes and the coast, all offered direct lines of travel, but they all led to hard conditions. The mountains were too high, the forests too dense, the south too cold, and the Tropics too hot to make a strong appeal. But there was no possibility of retreat until the farthest corner had been reached and turned. By the time of the discovery he had overrun the whole continent and a return migration was in progress across the Isthmus and through the West Indies.

When the first migration entered the continent the people were deflected by the mountains to the two coasts. Those who continued down the west coast, forced to compete with the rank jungle growth for supremacy in a humid debilitating climate, were unable to establish themselves and develop a high culture. So they moved on to the interior plateaus, where they found more congenial conditions and where they left evidence of an advanced culture.

Those who made their way to the coast south of the Equator must have been surprised to step out of the jungle into an immense desert country, the most arid in the world, stretching away for nearly 2,000 miles as a narrow fringe along the sea. Here they found fertile valleys, watered by the innumerable small rivers and streams which, fed by the melting of the perpetual snows of the mountain tops, made their way to the sea or lost themselves in the desert. These valleys, separated by trackless sands, offered both food and security. The sea made no call. There were few protected harbors along the great stretch of coast; no outlying islands to be inhabited and no timber for canoes. They became an agricultural people, living in villages and using the rivers for irrigating purposes. Irrigation guaranteed regular crops and hence a constant food supply. It also developed inventiveness and cooperation. Their common dependence upon the same water supply developed social organization and a strong government. As these different valleys had the same products there was very little commerce between them and each was allowed to develop its own culture. The archeological remains show the results of this development from independent centers.

Near the southern end of the continent climatic and topographic conditions are reversed. The coast and western slopes of the mountains are forested, while the interior is a semidesert. The deeply embayed coast has a chain of outlying islands. The steep mountains come down to the sea, leaving little arable land. The forests furnish an abundance of suitable timber for canoes. All these elements of environment unite to force the unfortunate tribes who have been pushed along into this region to become a maritime people. The inhospitable snow-clad mountains prevent contact with the interior tribes. They were shut off also from the people of the northern coast by rough seas and steep harborless shores. They were thus limited to the islands and the channels between. Their isolation and their hard conditions of life, with an uncertain food supply, has prevented them from developing a high culture. They



Courtesy of The Bulletin of the Geographical Society of Philadelphia.

A DIAU GIRL.

The tattooed lines at the corners of her mouth indicate that she is one who chews the cassava root for the manufacture of intoxicating drink.

have had no leisure. All their energies have been taxed to the uttermost to secure their daily bread.

The nearest neighbors of these canoe people are living under even worse conditions, because they were an interior people who have been forced down across the straits into the last point of land on the continent, from which there is no possible escape. With hard conditions and scant food supply they lead a precarious life. They must live in small separate groups in order to make the most of their wild foods. These small units have developed a rugged independence which will permit of no control. There is no necessity nor opportunity for community effort and hence there are no chiefs and no organized government. Left behind and held at bay in a most rigorous climate they have done well to maintain themselves even in their present culture. Their simple life reveals their origin. The absence of the canoe proves them to belong to the mainland east of the mountains where there are no navigable rivers and a harborless cliff coast for a thousand miles. The inhabitants of this plain have always been hunters and not fishermen.

Farther north on the same coast the narrow fringe of lowland is fertile and contains a number of deep bays. Here the people became agriculturists but added to their food supply shellfish from the sea. Many large refuse heaps mark the centers of occupation. The steep coast range of mountains prevented them from passing into the interior where other cultures are found.

Along the north coast from the Amazon to the Isthmus representatives of the same people occupy the savannahs and the forested interior. Here the savannah coast tribes, with their broader view and easy communication, in every instance have developed the higher culture.

While the coast peoples have had every variety of climatic condition, due to the change of latitude from the Equator to the most southern inhabited point in the world, those of the mountains have had much the same variety, due to change in elevation from a tropical sea level to the highest habitat of man. The mountains on account of their great height, hard conditions and lack of arable land served at first only as a barrier to deflect and to separate the migrating peoples. After a time the pressure of the populations in the lowland valleys on the west forced the people up the slopes and into the high valleys and plateaus between the Cordilleras. Here they found the quinua, the oca, and the potato, the hardiest and most useful food plants for cold climates. On the high plateaus they found among other animals the llama, one of the most useful animals known to man. It offered its flesh for food, its coat for clothing, its hide for harness, and its back for burdens. The high valley dwellers became agriculturists and traders, while their neighbors were first hunters, then herdsman. The cold, raw winds sweeping across the broad open plateaus drove the people to the leeward of the mountains for protection, where they formed small communities, each herdsman having his separate corral. These people, while living in these remote places, were in trade relations with the agriculturists in the valleys. They had a constant food supply in their herds, and while conditions of life were somewhat severe they were secure, contented, and happy. The broad horizon and invigorating climate stimulated thought. Their occupations gave them leisure for contemplation. So here among the shepherds music and myth reached their highest development.

In the center of this high plateau area is located a very large lake, with no outlet to the sea. The valleys all led to the lake. There was no passageway to a more congenial climate. There were no forests whose timber could be used for buildings and canoes, but there was abundance of stone in the mountains and turf in the fields for houses, and reeds in the swamps about the lake for balsas or rafts. Great towns developed on the shores of the lake, which could be reached either by water or by land. The lake exerted a unifying influence for either commerce or war. Magic gave place to a highly developed form of sun worship with a priestly class headed by a great chief who assumed autocratic power. There was soon a desire to extend



Photograph by Dr. W. C. Farabee.

TWO DIAU WOMEN.

The Dians have not advanced very far in the way of cultural development. They inhabit a section of the great Amazon Valley where "nature is overpowering, because it makes life so easy there is no necessity for effort. There is no struggle of intelligence against the forces of nature, because she provides the necessities of life ready made. * * * The climate is so mild that little or no clothing is required, nor any habitations except the simplest shelters, which may be built in a few hours when needed. There is no necessity for exercise of forethought, invention, or ingenuity."

the functions of this centralized government. Following the command of the spirit they moved their center of dominion northward across the divide to the head of a fertile valley and established a city. With the advantage of organization and location, they easily overcame one group after another of the valley peoples who were unable to unite for common defense on account of their natural boundaries. Thus the city became the center of a great empire, with a stable government and a state religion. The arts and industries were encouraged, schools and churches established, and a high state of civilization secured.

The large number of tribes inhabiting the interior of the continent have had a very different history. The great plains of the southeast have few natural boundaries to confine the people, so from the beginning they have dissipated their energies in spreading far and wide over the whole area without developing one single great center. They have exhausted themselves in the running and have left nothing of importance behind.

In the eastern highlands of Brazil, away from all migration routes and cut off from the coast, are found a number of tribes belonging to the same stock. As a whole, they are the most backward people of the continent. They may be a remnant of the first tribes to inhabit the plateau region who have been pushed aside into the out-of-the-way corners by stronger, more advanced tribes who came to the plateau in later times. They occupy the only mountains east of the Andes, which are high enough to form a barrier or undesirable enough to serve as place of retreat.

The rivers and valleys north and south and the low divide on the west all lead to the savanna plateau west of these highlands. This became a meeting place for the migrations from all these directions and also a place of dispersion. The routes of forward or backward migration of three great stocks may be traced to this center by tribes scattered along the way. Representatives of one stock apparently descended the La Plata River to the sea and passed along the coast 3,000 miles into the Amazon Valley, another followed down the southeastern branches of the Amazon, down the main river and around the coast to the West Indies, while a third occupied the higher branches of the Amazon and crossed the watershed to the north coast.

The Amazon Valley, an area nearly as large as the United States, was occupied by hundreds of tribes belonging to several different linguistic stocks and all in very much the same stage of cultural development. The whole area is well within the Tropics and shut off from the high cultures of the west by impassable mountains. It is a humid tropical forest jungle with a most monotonous debilitating climate. Nature here is overpowering, because she makes life so easy there is no necessity for effort. There is no struggle of intelligence against the forces of nature, because she provides the necessities of life ready made. The bounties of nature gratify the enfeebled ambition without labor. The daily needs have daily satisfactions. The climate is so mild that little or no clothing is required nor any habitations except the simplest shelters which may be built in a few hours when needed. There is no necessity for exercise of forethought, invention, or ingenuity. There is leisure but no energy. The law of social gravitation does not operate because there is no necessity for co-operation. The people live in small isolated groups because they require space for hunting and fishing. Hence there can be no central government. The sluggish rivers offered easy transportation. As there were no natural boundaries to confine the people and no central authority the different groups moved about at will coming into contact with other groups of different stocks and mingling cultures. There was no commerce because there was no variety of natural products in any one area not common to every other. There is little relief of land, change of climate, or variety of soil. The culture is as uniform as the environment. A characterless country is producing a characterless people. The Amazon Valley was the last great region to be occupied by man. There is no evidence of great antiquity either in archeological remains or in present cultures. The languages spoken show a close relationship

Courtesy of The Museum Journal, Philadelphia.

Among the Waikais there is leisure but no idleness. "The law of social evolution does not operate because there is no necessity for cooperation. The people live in small isolated groups because they require space for hunting and fishing. Hence there is no centralized government. The slight rivers offer easy transportation. As there were no centralized government, no one could collect taxes. Hence there was no centralized authority. As a result, the people act on their individual initiative, their government consists of small, scattered groups, each self-sufficient and self-reliant.



A WAIKAI PIG TRAP.

A WAIKAI PIG TRAP. The people live in small isolated groups because there is no necessity for cooperation. The law of social evolution does not operate because there is no necessity for cooperation. The slight rivers offer easy transportation. As there were no centralized government, no one could collect taxes. Hence there was no centralized authority. As a result, the people act on their individual initiative, their government consists of small, scattered groups, each self-sufficient and self-reliant.

without side groups. The cultures, always first to reveal the effects of a change of environment, show certain similarities, but are decadent in form. All the evidence at hand tends to show that the culture of the South American Indian has developed in perfect harmony with his geographic environment.

Making Food from Fodder is the subject of an article appearing in the Spanish edition of the BULLETIN for November, being a translation of Mr. O. R. Geyer's article in the Scientific American of September. We believe the English version will be of interest to many readers, so reproduce it in full.

Fear of a possible world-wide shortage of food which may bring the pinch of hunger even to Americans has sent many scientists and food chemists into their laboratories in an effort to relieve the food situation in so far as science can accomplish that end. As a result huge quantities of products which have been used for other purposes than the preparation of foodstuffs are being added to America's war menu. These articles can be used to supplement such staple products as wheat, corn and other cereals, since chemists have discovered that their food value is hardly less than that of corn or wheat. It simply remains a question as to whether the American public cares to adapt itself to these new conditions, and this may become a necessity in case the worst fears of food experts are realized.

Among the most interesting of the long series of experiments which have been underway in recent years or are in progress at this time are those of Oklahoma Agricultural College, which have added a number of important food products to the country's food supply. Chief among these have been cottonseed meal, and flours made from kafir corn, feterita, grain sorghums, milo and kindred grains, all of which have heretofore been used mainly in the feeding of live stock. Bread and other articles of food made from these cereals not only are palatable but have a high food value. The most important feature, however, is the fact that they are already produced in notable quantities.

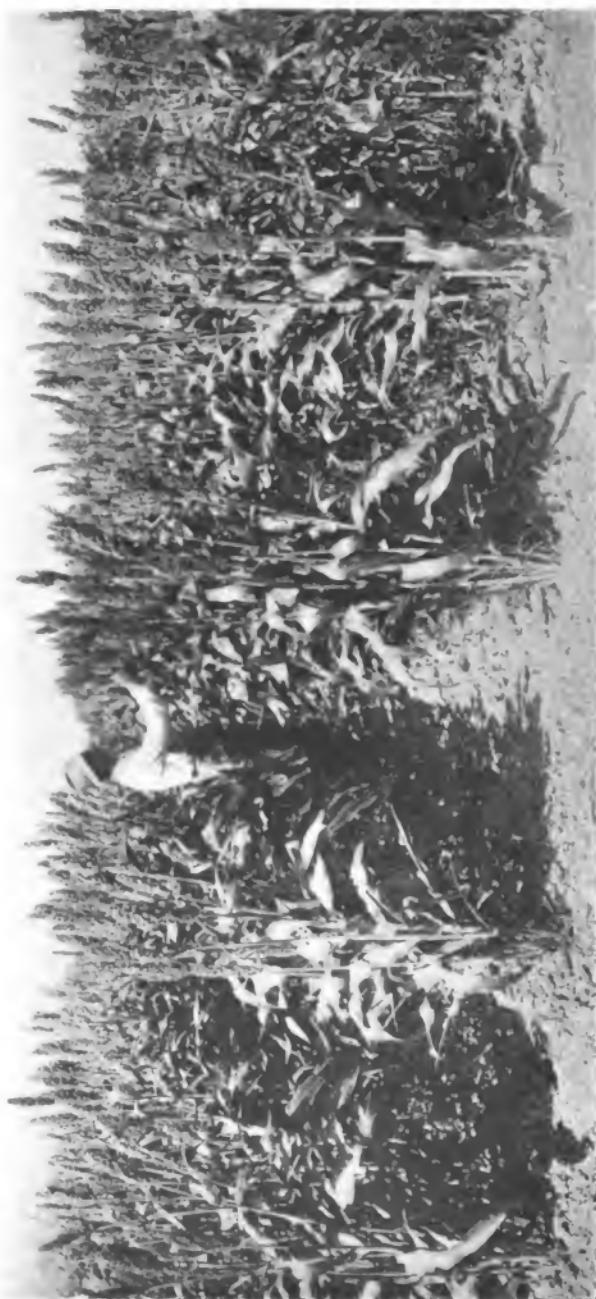
The discovery of flour substitutes has been the most important problem since the world-wide shortage of wheat has brought about an actual shortage of food supplies. Three Southern and Southwestern States—Oklahoma, Kansas, and Texas—however, can supply enough kafir corn and cotton-seed flour to make up the country's flour shortage this year; and by next year, should abnormal conditions demand it, enormous quantities of these flour substitutes can be produced in almost all of the farming States, but more especially in the Southern States, where the wheat crop is a small item in the crop production. Two years ago Oklahoma alone produced 30,000,000 bushels of grain sorghums, the grains of which can be converted into flour, and this year will see a crop even larger. This is about four times the State's wheat production and, of course, will be an important contribution to the Nation's food supply.

The adaptability of the grain sorghums, kafir corn, feterita (a comparatively new American grain), milo, and similar grains to southern soil and climatic conditions will enable the Southern States to produce enormous quantities of these substitutes for wheat and will result in their becoming enrolled among the great food-producing States of the Nation. The cotton crop grown by the South already yields great quantities of material which can be converted into acceptable foodstuffs. Until recently cotton seed, despite the fact that it contains more protein than almost any other food product grown in the country, has been used almost exclusively in the preparation of certain cooking materials and for feeding live stock. In fact, the percentage of protein in cotton seed is so high that care must be exercised in adapting it for food purposes, both for animals and human beings. If food products derived from cotton seed are prepared under the direction of experts, however, there is absolutely no danger, and an enormous quantity of foodstuffs will be added to the Nation's supply.

Courtesy of the United States Department of Agriculture.

A FIELD OF FETERITA.

An experiment in planting feterita at the Foreign Crop Field Station at Hays, Kans. According to Mr. O. R. Geyer, "Feterita is one of the newest grain crops introduced into the United States about six years ago through the agency of the Department of Agriculture. While it has not been grown long enough to demonstrate its full worth and adaptability to American soils and conditions, it is evident that there is an increasing demand for it and that it will soon become a recognized farm staple, especially in the southwest, owing to its drought-resisting qualities. Feterita is somewhat softer than kafir, and for this reason gives better results in digestion experiments."



HARVESTING FETERITA IN TEXAS.

Courtesy of the United States Department of Agriculture.



Feterita was very successfully grown at the Government's Forage Crop Field Station at Chillicothe, Tex. "The adaptability of the grain sorghums, kafir corn, feterita, milo, and similar grains to southern soil and climatic conditions will enable the Southern States to produce enormous quantities of these substitutes for wheat, and will result in their becoming enrolled among the great food-producing States of the Nation."

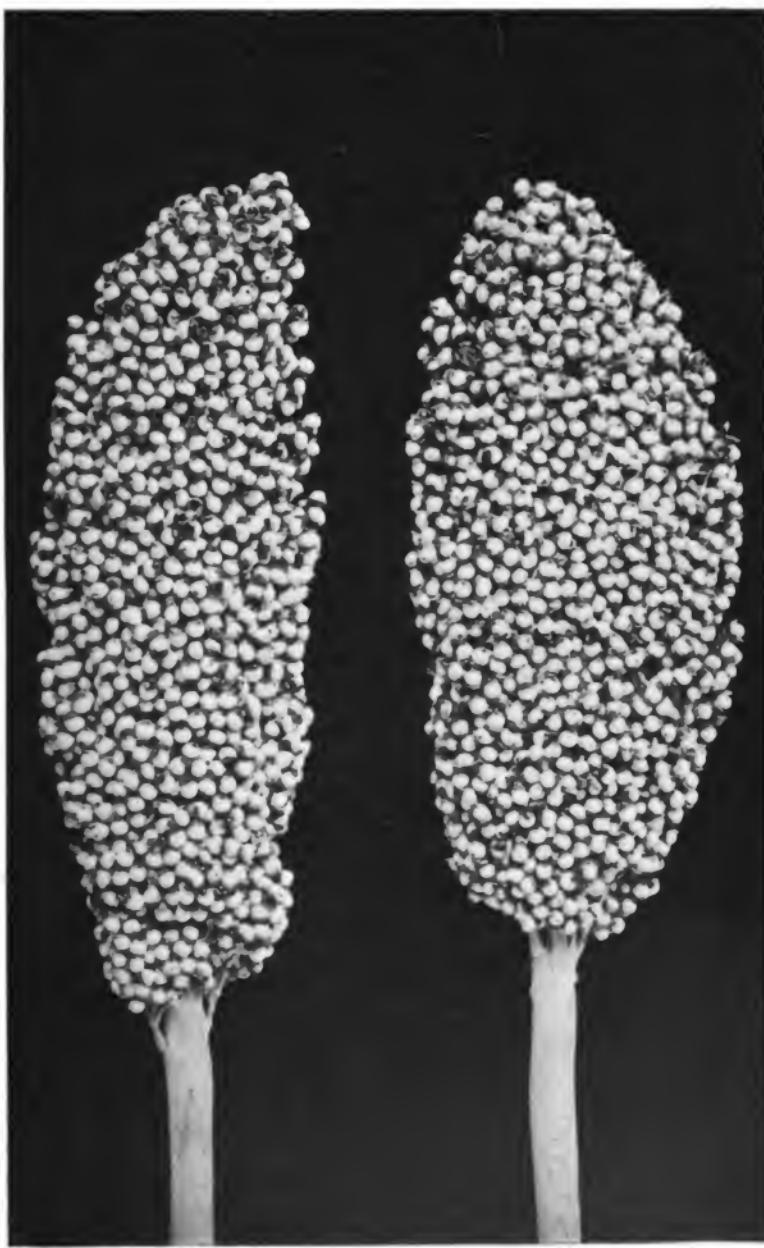
Cottonseed meal serves its best purpose when mixed with kafir corn, which is also expected to serve an important end in replenishing the country's larder in the coming months. Commercial cottonseed meal can be used in the preparation of food products which contain 51 per cent of protein, and, if used intelligently, can be made to replace meat in an ordinary diet as a source of protein. As sold on the market cottonseed meal will contain from 30 to 48 per cent of protein. Compared with the percentage of protein found in other common food products, the balance in favor of cottonseed meal is most one-sided. Protein in round steak will range from 12 to 16 per cent, in beans about 20 per cent, peanuts, 25 per cent, and in wheat bread about 9 per cent. The muscle-building properties available in food products prepared with cottonseed meal are apparent at a glance, for they average from three to five times the quantity found in wheat flour.

Germany has been compelled to resort to the use of potato bread as a substitute for wheat, which is hardly in the same class with cottonseed meal and kafir corn flour. As a war food, this latter combination is "fit for the gods," in the opinion of food chemists who have been conducting experiments of this character since the war began. More enthusiastic friends of this new flour substitute declare that in time America would not be willing to abandon this new food. Certainly, at least, it has been found most palatable by those who have tried it. A recent gathering of Oklahoma editors was served with bread made from a combination of feterita flour and cottonseed meal, which was found to be much more nutritious than bread made from wheat flour.

There is almost no limit to the number of ways in which flours made from feterita and kafir corn can be used. As a breakfast food, they are as palatable and attractive as any of the varieties now being served on the tables of the American people. Delicious muffins, brown bread, cookies, and griddle cakes have been prepared from feterita and kafir corn in the Oklahoma laboratory, and in all of these foods it has been found possible to utilize cottonseed meal, thus increasing the percentage of protein. Homes in which foods prepared with these flour substitutes have been used have found them more valuable and attractive to the taste than foods prepared with wheat flour, which gives assurance that this new form of "war bread" may become widely popular in America.

Any widespread adoption of "war breads" made from these products will not withdraw large quantities of foods from animals, for the stalks of all grains can still be used for silage and make a valuable food for live stock. Utilization of the grains for human food is, of course, a thrifit movement of national importance. The sorghum grains, of which there are many varieties, have been found to be acceptable substitutes for corn products. The grain sorghums, and kafir, milo, feterita, and similar grains, while permanent crops in many Southern States, notably in the Southwest, have not been planted as extensively as they might be. In Oklahoma alone the annual crop of these products could be increased four times without much trouble, while vast acreages of Texas lands are available for these crops, which have the value of being drouth resisters to an important extent. It is estimated that Texas alone could produce enough of these cereals to supply the entire Nation with "war bread." Combining this available addition to the food supply with the huge quantities of cottonseed meal which can be produced without increasing the acreage devoted to that crop, America can well withstand any siege which famine may lay at her doors. An important factor that will lend encouragement to the utilization of the new source of foodstuffs is the fact that these food crops can be raised best in States which lie outside the wheat and corn belt proper, and so will not interfere with the production of those two important crops.

An analysis showing how feterita and other grains compare is most interesting, inasmuch as it shows that this hitherto little-known product resembles corn in its composition and has a nutritive value practically as high as has corn. Experiments



Courtesy of the United States Department of Agriculture.

TWO REPRESENTATIVE HEADS OF FETERITA.

These heads were selected at Lubbock, Tex., for heavy seed production. "The preparation of flours from these grains is a simple process, providing the grains have been well cleaned. After being ground in a mill, a bolting cloth can be used to produce a very fine grade of meal or flour. Practically the same process can be followed in preparing flours from the grain sorghums, although experiments of this character are not as advanced as in the case of feterita and kafir."



Courtesy of the United States Department of Agriculture.

A FIELD OF KAFIR CORN IN KANSAS.

"Experiments made in the South show that kafir corn has a feeding value about 90 per cent that of corn (maize), a rank to which feterita is also entitled. * * * The harder grains, such as kafir and milo, will pop, and can be used in making excellent grades of hominy. The popped grains have a pleasing flavor. Feterita, however, has a much sweeter taste than kafir or milo."

made in the South show that kafir corn has a feeding value about 90 per cent that of corn—a rank to which feterita is also entitled. The following table gives the percentage content of corn, wheat, kafir, and feterita:

	Feterita.	Corn.	Kafir.	Wheat.
Moisture	10.82	10.90	9.73	12.94
Ash	1.48	1.50	1.70	1.62
Crude protein	11.50	10.50	12.69	13.94
Carbohydrates	71.71	69.60	70.98	67.70
Crude fiber	1.15	2.10	1.38	2.24
Crude fat	3.34	5.40	3.52	1.56

Feterita is one of the newest grain crops introduced into America, having been brought to America about six years ago through the agency of the Department of Agriculture. While it has not been grown long enough to demonstrate its full worth and adaptability to American soils and conditions, it is evident that there is an increasing demand for it and that it soon will become a recognized farm staple, especially in the Southwest, owing especially to its drought-resisting qualities. Feterita is somewhat softer than kafir, and for this reason gives better results in digestion experiments. The harder grains such as kafir and milo will pop, and can be used in making excellent grades of hominy. The popped grains have a pleasing flavor. Feterita flour, however, has a much sweeter taste than kafir or milo.

The preparation of flours from these grains is a simple process, providing the grains have been well cleaned. After being ground in a mill, a bolting cloth can be used to produce a very fine grade of meal or flour. Practically the same process can be followed in preparing flours from the grain sorghums, although experiments of this character are not as advanced as in the case of feterita and kafir. The war is lending considerable encouragement to the study of these problems in southern agricultural colleges.

Adolph Alexander Weinman is the sculptor whose work is dealt with in the September issue of the Spanish edition of the **BULLETIN**. The English version of the article is as follows:

Prominent among the younger sculptors of America is Adolph Alexander Weinman, of New York. In his works one finds an expression of real American art and ideals. He is one of the few present-day sculptors who from the very beginning of his professional career has found inspiration in American subjects and thought, and whose art education has been acquired almost wholly in this country and under the influence of America's greater artists.

Mr. Weinman came to this country with his parents when he was but a child of 10. As a youngster he showed an aptitude for art and a few years later he was apprenticed to a carver of wood and ivory. In this occupation he displayed unusual talent and ability. At 16 he entered the evening classes in drawing and modeling at the Cooper Union. While a student here he won the Mitchell Vance prize for drawing and his work attracted marked attention. Four years later he became a pupil of Philip Martiny at the latter's studio, but while studying under Martiny he continued his studies at the Art Students' League. In the classes of modeling he did such excellent work and displayed so much talent that he attracted the special attention of the late Augustus St. Gaudens, at that time one of the



STATUE OF ABRAHAM LINCOLN IN THE ROTUNDA OF THE STATE CAPITOL, FRANKFORT, KY.

Besides this statue of Lincoln, Weinman also made the one erected in Hodgenville, Ky., the birthplace of the martyred president. In this work the artist has imbued a spirit of kindness, calm, dignity, and philosophic resignation into the strong and rugged face of the great Lincoln.



THE DESTINY OF THE RED MAN.

A group by Weinman which attracted wide attention at the St. Louis International Exposition. The composition suggests the disappearance of the Indian in the United States and makes a dramatic appeal of stirring effect.



A decorative panel developing an idea by the use of classic figures. This is one of several symbolic panels adorning the facade of the library of J. P. Morgan, Jr., in New York.

instructors in the league. He won a number of prizes for modeling and came more and more under the observation of St. Gaudens, who offered the young student every assistance and encouragement.

Weinman later became a pupil in the studio of St. Gaudens, and the influence which this greatest of American sculptors exerted on him is frequently noted in his sculptural efforts. Concluding his studies, he engaged himself as assistant to Charles H. Niehaus and later to Daniel C. French, sculptors who occupy ranking positions in the sculptural world and whose works have been the subject of separate articles in this series.

With this art education as a foundation, coupled with the experience he acquired as assistant in the studios of the several eminent sculptors, Weinman entered into the active practice of his profession and soon was rewarded with his first important commissions. He received the award in the competition for the soldiers' and sailors' monument which the Maryland Union proposed to erect in Baltimore. Many of the country's leading sculptors submitted designs in the contest, but the committee found unusual points of excellence and superiority in Weinman's conception of what such a monument should typify and selected him as the winner. He completed a handsome monument, which to-day forms an attractive feature of the Druid Hill Park, where it is placed.

Another notable competition in which he was the successful contestant was for the Macomb monument in Detroit, Mich. This statue, unveiled on September 11, 1908, was erected under the auspices of the Michigan Society of the Daughters of 1812 and is a fitting memorial to Gen. Alexander Macomb, the hero of the Battle of Plattsburg. The statue is of a distinctly military character. It rests on a pedestal of granite, which rises from a pavement of pebbles laid in cement and flanked by three smaller pedestals bearing cannon of the period of 1812. The granite used is of a pinkish color, mottled with black and green, and harmonizes well with the pebble pavement and the green of the cannon and statue. The figure represents the heroic general in the tense attitude of the commander before a critical battle. The expression of extreme concentration is the most original note in the composition and is relieved from too great monotony by the fine flowing lines of the army cloak, blown forward by the wind. The statue is throbbing with life, and critics assert that it possesses some of that stimulating and idealistic quality which is found in the work of Weinman's early instructor, St. Gaudens.

Weinman has also done a number of remarkable statues of Lincoln. He did the Lincoln memorial at Hodgenville, Ky., the birthplace of the President, and also a standing figure of Lincoln for the rotunda of the State capitol at Frankfort, Ky. In both of these he has ably expressed the vigor and power of the martyred President; and yet, with the deft touch of the master sculptor, he has imbued a



SILENCE.



CLASSIC FIGURE.

DECORATIVE PANELS.



THE LIGHT ETERNAL.

Included in Weinman's sculptural efforts are many examples of handsome decorative panels. His American and classic ideal figures, as well as his oriental conceptions, are replete with allegory, symbolism, and mysticism. Products of his art may be seen among the embellishments of many public buildings and memorials in the United States.



KNEELING CHERUB.

A dainty and charming concept by Weinman forming part of the Wolcott Memorial at Woodlawn Cemetery, New York City.



DESCENDING NIGHT.

This design was used by Weinman for the fountain of the Setting Sun which was exhibited at the recent exposition in San Francisco.

spirit of kindness, calm, dignity, and philosophic resignation into the strong and rugged face of the great Lincoln that seems to reveal the innermost thoughts and wonderful character of the beloved emancipator.

A portrait statue executed by Weinman and which reveals the ability of the sculptor in this class of work is that of Alexander J. Cassatt, the late president of the Pennsylvania Railroad system. This bust is a conspicuous ornament of the Pennsylvania station in New York City, and attracts the attention of the hundreds of thousands who daily pass through the great terminal. In the portrait heads of women he happily merges characterization and simplicity, and produces a relief of charm and delicacy.

But Weinman does not confine himself to any special field in sculpture. Besides works of a monumental character he has executed a number of commissions for designs of a symbolic and decorative nature. At the St. Louis Exposition in 1904 and again at the Brussels Exposition of 1910 his artistic efforts received silver medals. At St. Louis he exhibited for the first time the famous group called "The Destiny of the Red Man," a plastic composition symbolizing in striking manner the disappearance of a race that is fast passing out of the life of this Nation. It is a much admired composition, and the Indian figures are especially vigorous. The whole treatment has a dramatic appeal of stirring effect. At the Panama-Pacific International Exposition at San Francisco, 1915, he contributed the fountains of the "Rising Sun" and the "Setting Sun" for the Court of the Universe. These attracted a great deal of attention for their graceful treatment and softness of lines.

In his studies and concepts the sculptor manifests a fondness for the intractable subject, children and cattle probably dividing honors for an irresponsible disdain of the artist. Weinman, however, does not wait upon the pleasure of his subject, but in the case of an animal follows it into its native haunt and there with portable stand draws it in its natural poses and habitual characteristics.

Another sculptural commission which has won him much praise and added greatly to his reputation is the pair of colossal sphinxes which he made for the handsome Scottish Rite Temple at Washington, D. C. These two figures flank the entrance of the new Masonic edifice and have excited the most glowing comments from lovers of art. They are superb creatures, splendidly decorative, symbolic of the mystic atmosphere which surrounds that silent form, and yet highly appropriate. In their position on the dominating side pedestals they are most effective and seem to give an atmosphere of oriental charm and splendor to the magnificent temple.

In connection with architecture, Weinman has done some beautiful decorative work. The Madison Square Presbyterian Church, the



THE BOWLER.

Statuettes in bronze, by Weinman. The figures represent typical American athletes full of action and vigor. A study of the statuettes reveals the remarkable detail that the artist has given to the sturdy bodies of the young men; yet these touches are hidden in the cleverly poised position which mark the first impression that the observer receives.



THE BALL PITCHER.

Digitized by Google

THE SPHINX, BY WEINMAN.

One of a pair of sphinxes which adorn the entrance to the Scottish Rite Temple at Washington, D. C. These are superb creatures, splendidly decorative, and symbolic of the mystic atmosphere which surrounds the temple. They add a distinct note of oriental charm and splendor to the magnificent building.





MEDALS AND COINS, BY WEINMAN.

As a designer of medals Weinman stands among the foremost in the United States. The medals of honor of leading literary and scientific societies, the new silver dime and half dollar are among his works. The upper picture represents the gold medal of the National Institute of Arts and Letters. On the obverse side is the head of Apollo. The center pictures are the two sides of the new half dollar now in circulation. The lower pictures represent the medal of the American Institute of Architects.

library of J. Pierpont Morgan, the Pennsylvania Railroad Station, all of New York, and the capitol at Madison, Wis., contain examples of his art in embellishments and panel decorations. In these efforts he has produced some highly ornate work, depicting by classic figure and symbolic interpretation the spirit of their environment or the motive of their placement.

As a medalist, however, he ranks probably second to none. Ingenious and skillful in this branch of artistic endeavor, he has produced some exceptionally fine work. No doubt his early training as a wood and ivory carver stand him in good stead. The medal of honor of the American Institute of Architects is his work, as is also the medal of the National Institute of Arts and Letters and the United States medal for life saving on the railroads. He also did the official medal of the St. Louis Exposition. In all these designs he combined strength with simplicity, thus creating an object of striking charm. Most recently he has designed a series of coins for the United States Government. New coins of the denomination of 10 cents and 50 cents are now in circulation in this country and are bringing forth much favorable comment for the beauty of design and the effective expression through it of the spirit and ideals of this country.

The Construction of Highways is the subject of an article by Muriel Bailey in the September number of the Spanish edition of the *Bulletin*. The author makes the introductory statement that the subject of good roads is as old as written history, and proceeds to prove the assertion by outlining in an interesting manner the methods of building highways from the days of Cheops, the builder of the famous Egyptian Road, on through the construction of the great Roman highways down to the present. She describes the construction methods of Tresaguet, the famous French pioneer road builder, the improved methods of the two Scotch engineers, John Loudon Mac-Adam and Thomas Telford, and finally enters upon the history of road building in the United States, of which she gives the following account:

Road building was started in the United States in the early colonial days and was acknowledged a need in the first years of the Federal Government. These roadways generally followed Indian trails and cow paths and the ways of the wild animals, as the settlers pushed farther west and were compelled to have outlets. Even at this time the young country advanced funds for the building of its roads, and up to the time of the Civil War the need of this movement was recognized and to a moderate extent attended to. Following the great conflict between the North and the South, however, road building was entirely forgotten in the reconstruction problems, the farmer was lost sight of in the maelstrom of sudden commercial, mercantile, and mining activity.

Finally, however, New Jersey, a State whose farms far outweigh other considerations from development and area standpoints, discovered that she was going backward. Her legislators took accounting, and the result was the first State aid given to road building.



Courtesy of Office of Public Roads, United States Department of Agriculture.

BUILDING A BRICK ROAD.

For a brick road the essential elements are thorough drainage, firmness, uniformity in grade and cross section, and adequate shoulders. The roadway having been properly graded and prepared is repeatedly rolled and reshaped until the desired form is secured and the surface made smooth and hard. The best base or foundation which can then be put on the subgrade is of concrete, generally composed of 1 part of Portland cement, 3 parts sand, and from 5 to 7 parts of broken stone or screened gravel. After this is mixed and spread it is rolled smooth by a steam roller, the finished concrete base then appearing as in the top picture. A cushion of sand, or dry sand and concrete combined, from 1 to 2 inches thick, is then spread over the surface and rolled, as shown in the lower picture,



Courtesy of Office of Public Roads, United States Department of Agriculture.

BUILDING A BRICK ROAD.

The layer of sand spread over the concrete base forms a bed for the brick pavement, the bricks being laid on edge, as shown in the top picture, care being taken to eliminate all that are imperfect or broken. After the pavement has been laid it is rolled and all uneven surfaces and inequalities smoothed out, as shown in the lower picture.



Courtesy of Office of Public Roads, United States Department of Agriculture.

BUILDING A BRICK ROAD.

After the bricks have been laid and smoothed out, the joints between them are filled in with sand or various bituminous preparations, and a grout (or mortar) made of equal parts of Portland cement and fine sand mixed with water is spread over the surface and fills in joints and cracks, an operation shown in the top picture. The entire surface is then covered with a layer of sand an inch thick, which is allowed to remain at least 10 days before the road can be used. The finished road, shown in the lower picture, is then ready for traffic. While the first cost of such a road is greater than those of other construction, the cost of maintenance and the lasting qualities make it the cheapest in the end.



AN EXHIBIT OF ROAD MODELS ON A RAILWAY TRAIN.

The Office of Public Roads of the United States Department of Agriculture made an exhibit of good-road models for the first time in 1909. The purpose was to put on view such striking examples in miniature of model roads that visitors would not only appreciate the beneficent effect of improved roads but would, at the same time, be able to understand the methods of their construction. Exhibits have since then been displayed at many exhibitions and fairs throughout the country, and even in foreign countries, such as at Buenos Aires during the International Agricultural Exposition, at Turin, Italy, during the International Exposition, etc. A special exhibit of models has also been displayed on railway trains, the coach containing the exhibit being left for a day or two at the most important towns along the route of leading railways, thus enabling the people of every section of the country to see these models of modern roadway construction. Advice and information in regard to good roads may be obtained free by application to the Director of the Office of Public Roads, Washington, D. C.

Previously the county had been the largest unit directly interested in building and maintaining roads. The result was, in the great majority of instances, little building and no maintenance, with the inevitable consequence that even those roads which had been well constructed fell into ruin. The farmer made his way through dust, sand, ruts, and rocks in summer, and through mud and swamp holes in winter. Farms fell into decay and farmers into discouragement. The average county official, however well intentioned, knew nothing about road building, and the employment of an engineer in county road matters was unheard of except in the very small minority of rich agricultural sections. To convince the public that the roadway problem is not and never has been a local one has been a difficult matter. England clung to the local theory for centuries despite repeated logical attacks upon it. Our forbears adopted this method because it was the only one they knew. The United States held to it with a tenacity worthy of a better cause, a condition created by her political limitations, which have dwarfed so many of her great projects.

New Jersey's bombshell into the camp of road-building precedent, however, created a profound effect, especially when two years later her agricultural offerings to the country had about doubled, new farm lands were being cultivated, waste lands reclaimed, and her farmers were buying automobiles. From neighboring States automobilists began journeying into New Jersey to try out the new roads. From fines and licenses this enterprising commonwealth had quite a sum to apply to her road improvements. The visitors went home to their States and complained of their own roads. The result was that in the next 12 years 40 States of the Union had appointed State highway commissions, and the movement for good roads was on a steep down grade and gaining momentum with every turn of the legislative wheels.

Behold then, the springing into existence of State highways and the broadening of the viewpoints of the people of the remote sections. They began to think in terms of distances to be covered at least expense and of doubling their hauling power. Loads could be brought home over good roads, after the output had been sent on its way marketward. No longer was the winter with its road bed streams that buried the wagons up to the hubs or the deep ruts and jagged rocks to be considered in the size of the loads to be sent to the shipping point. It was worth while to begin the cultivation of idle acres. Mortgages began to lose their horrors—the future brightened. For many years the coming of a railroad close to a farm had been the farmer's only hope of greater prosperity. The impracticability of running rails to the innumerable farm vicinities did not impress the farmer. His experience with road improvements had been of such a character that the railroad had come to mean his only tie with the outside world.

Not theoretical in this recounting of road benefits, the Agricultural Department of the United States Government, vitally concerned in all matters pertaining to agricultural development, obtained actual figures showing results from sections where improved roads were in actual use. Land which had been quoted at \$7 an acre with no buyers, jumped to \$15 and \$18 with no sellers. A study of farm values in eight counties with improved market roads, showed an increase in the price of tillable land amounting to three times the cost of the improvements. The increase in the volume of shipping traffic amounted to 70 percent. The church and school attendance went up 25 per cent. Mentally, morally, socially, and financially, the good-roads movement had proved itself.

But it was not alone in the matter of agriculture that the good-roads problem assumed huge proportions. Forestry shipments had fallen to such a lethargic condition that the situation presented grave aspects. In 1913, the whole subject was brought forcibly to the attention of the Federal Government. State aid had accomplished such wonders that it demonstrated plainly the course the Nation must pursue. Still it took three years to break down the barrier which States' rights had erected and to which the country has clung in spite of its all too evident restrictive tendencies. However, the State of Maine alone discovered that she had lost \$10,000,000 in one



Courtesy of the American Motorist.

A CONTRAST IN ROADS.

Top: A beautiful section of farming country marred by an unimproved road. Bottom: A dependable and lasting brick highway in the State of Florida.



Courtesy of *The American Motorist*.

THREE TYPES OF ROADS IN THE UNITED STATES.

Top: A section of a macadamized trunk highway in the State of Connecticut. Center: A picturesque earth roadway, the "cheapest form of highway improvement, in the State of Texas. Bottom: A first-class brick roadway, the most expensive when first cost is considered, the cheapest when the factors of durability and maintenance are borne in mind.



Courtesy of *The American Motorist*.

ROAD CONSTRUCTION IN THE UNITED STATES.

Top: Section of a State road in California carried on trestles along the ocean shore. Center: Section of a boulevard in Los Angeles County, State of California, showing its good condition after four years' use without resurfacing. Bottom: A roadway in Glenwood Canyon on the Pike's Peak Ocean to Ocean Highway.

Courtesy of The American Motorist.
Left: Type of excellent roads found in the State of Pennsylvania, being a section of the William Penn Highway, which is an eastern link in one of the great transcontinental roads. Right: View of a section of the macadamized roadway which skirts the shore of Lake George, State of New York.

TWO EXAMPLES OF GOOD ROADS.





Courtesy of *The American Motorist*.

A HIGHWAY TO THE TOP OF PIKE'S PEAK, COLO.

Upper: View showing Pike's Peak and a portion of the Rampart Range of mountains, with the automobile highway leading to the mountain. Lower: A bird's-eye view of the new automobile highway which curves and winds about in its gradual ascent until it finally reaches the summit.



Courtesy of the American Motorist.

SAFEGUARDS FOR MOTORISTS ON HIGHWAYS.

The above reproduced photographs show a number of ingenious devices adopted by some of the progressive automobile clubs of the United States in order to prevent accidents at dangerous points along public highways. No 1 shows a sign requesting the motorist to go slow as he enters a shaded roadway where the view is obstructed by the trees; in No. 2 the sign thanks him for complying with the request, as he emerges, and invites him to come again; No. 3 shows a mirror device in which the motorist can see an approaching vehicle or other obstruction around a sharp curve in the road; No. 4 cautions the motorist that he must take up only one-half of the roadway; No. 5 admonishes him that death lurks around the curve if he drives recklessly.

year because of the bad condition of her roads. This took no account of the losses to farmers and manufacturers. Other States began figuring. Senator John H. Bankhead, chairman of the Committee on Post Offices and Post Roads, who had been practically standing alone in his fight for road legislation, found the good wind veering in his direction and began to fight anew. It was estimated that the parcels post and rural free delivery routes could be doubled and a saving of \$300,000,000 annually be secured, if the roads of the country were put in good condition.

Figures and facts prevailed. The Federal Aid Road Act was passed, carrying with it an \$85,000,000 appropriation, \$10,000,000 of which is to be devoted to forestry roads.

At the subsequent meetings of their legislatures, road building was taken out of the jurisdiction of the county and vested in State highway commissions, with an engineer to direct the actual construction, and to consult with the Federal department. The impetus this has given to the movement can best be demonstrated by citing accomplishments. In some of the States good-road schools have been established, in connection with other institutions of learning chiefly. The course includes care of roads, maintenance, construction, drainage, road systems, planning and location, grading and alignments, highway bridges and culverts, and a study of the differing soils and other features of economic road construction, including labor and the standardizing of roads and road materials. Governors appointed good roads days during which the men labored on road improvement and the women in the whitewashing of walls and fences and the putting of gardens in trim. Plans for road construction in every direction sprang into being and, strange to say, roads began to appear, bad stretches to disappear. In the past very few years—hardly three—seven trunk highways across the continent from New York to San Francisco have come into existence and are practically completed and six overland routes from the North to the South.

Of the great trunk lines from East to West, the Lincoln Highway is the nearest to full completion, offers the greatest scenic values, and is the most marvellous example of the subduing of nature to man's desires that can be found. It leads from New York to San Francisco, via Philadelphia, Pittsburgh, Omaha, Denver, Cheyenne, Ogden, Salt Lake City, and Reno, thence across the State of California. Whereas, before the European war not more than 50 tourists a year essayed this trip, which was really one of considerable danger and required a real love of adventure, last year upward of 10,000 enjoyed a fairly comfortable trip with nightly hotel accommodations if they so desired, and daily views of scenic splendors not to be surpassed anywhere in the world. Descriptions are impossible in a limited account, but some idea may be gained of the enterprise when it is known that the altitude of the Lincoln Highway in some parts is over 11,000 feet. In the three years of its building, hills have been dumped into valleys, the sides of gigantic mountains shaved to leave a ledge for the hanging of a roadway. Man's ingenuity has overcome all barriers saving the one of mud. The greatest difficulty the road builders have had to contend with in the great middle western sections has been the heavy rains which sometimes in a night have destroyed thousands of dollars of road work which had to be done over again when the roads had dried out.

These things, however, will be overcome in good time. Through the farming country of the States of Indiana, Illinois, Iowa, and Nebraska the roadways are nearly all natural dirt although the people are beginning to appreciate now that this is the most expensive kind of road. The Lincoln Highway has followed the famous "Overland Trail" very closely, going in the pathway of Indian and stage coach and prairie schooner. It opens up marvellous insight into mountains, lakes, valleys, plains, forests, and desert. It displays to a beginning comprehension the vast possibilities of the various industries scattered between the bordering oceans, really only in their infancy.

Yet the Lincoln Highway is only one of seven to guide the traveler through the nation and introduce its marvels. The Pike's Peak Ocean-To-Ocean Highway starts



Courtesy of the American Motorist

AN IMPROVED MOUNTAIN HIGHWAY.

Bird's-eye view of the road leading to the famous Roosevelt Dam in the mountain region of Arizona. The section of the roadway shown above descends 1,000 feet in a distance of a little more than a mile.

Courtesy of The American Motorist.

A HIGHWAY CROSSING THE ROCKY MOUNTAINS.

The several transcontinental highways offer a variety of scenic wonders. In crossing the Rocky Mountains during the colder seasons vast stretches of snow and ice surround the traveler, extending in every direction as far as the eye can see. Good roads have made this picturesque region accessible to automobileists, and how many thousands of tourists annually visit places that a few years ago only the most daring could reach.



HIGHWAYS OVER MOUNTAINS.
Courtesy of The American Motorist.
The great transcontinental highways pass through some of the most picturesque sections of the United States. The above picture shows a party of automobile tourists approaching





Courtesy of The American Motorist.

AN IMPROVED HIGHWAY THAT PASSES THROUGH A MOUNTAIN.

One of the most picturesque roads in the United States is the Columbia River Highway, leading out from Portland, State of Oregon. At a place called "Mitchell's Point" the roadway was tunneled through the side of a mountain.



Courtesy of *The American Motorist*.

A MOUNTAIN HIGHWAY IN COLORADO, UNITED STATES OF AMERICA.

The fine highways that cross the State of Colorado offer so many attractions to people who love nature and the great "out of doors" that in summer the roads are crowded with automobiles. In the above reproduced photograph the road to the famous "Half Moon Bay" is shown, an almost continuous procession of automobiles demonstrating the value and popularity of a good roadway.



Courtesy of The American Motorist.

IN THE MOUNTAINS OF MONTANA.

One of the many picturesque spots in the mountain regions of Montana which have been made accessible to motorists by the improvement of the public highways of the State. In the right of the picture may be seen the excellent motor road which traverses the Gallatin Canyon, in the southern portion of the State and not far north of Yellowstone National Park.



Courtesy of The American Motorist.

IN MOUNT RAINIER NATIONAL PARK, UNITED STATES OF AMERICA.

A fine stretch of an earth and gravel road leading through a spruce forest in Mount Rainier National Park, State of Washington.

at New York City, leads through New Jersey, through Pennsylvania via the William Penn Highway, and thence to the West via Kansas City and over the Rocky Mountains through newly constructed roadways. The Sunset Trail leads from Chicago southward, following the Santa Fe Trail, through Arizona, New Mexico, and to Southern California, thence northward to San Francisco. The Northwest Trail—2,416 miles from Chicago to Spokane—crosses dairy farms, wheat belts, gold, copper, and silver mines, passes the Yellowstone Park—a trail made by the prairie schooner of the early Northwest settler. The Dixie Overland Highway, one of the newest of the trunk road projects, is being closely watched by the Federal Government and is enthusiastically supported by the people of the South. It passes through Georgia, Alabama, Mississippi, Louisiana, Texas, and Arizona to California.

Every facility, therefore, is placed at the disposal of the States for their road building. Engineers in Federal employ are at the disposal of the State highways commissions and the people for consultation purposes. The department is ready at all times to suggest the best kind of road for the needs of the various sections of the country. Experiments are being made and experts are travelling throughout the land with illustrations of good and bad roads, and explanations of advantages of good roads. Endeavors are being made to prevent wasteful expenditure on the wrong kinds of roads. The Director of the United States Office of Public Roads and Rural Engineering has written to the highways commissions urging the placing of road building on a sound economic basis and the creation of well-organized forces for building and maintenance and improved road management. The Chief Engineer of the United States Army has notified builders of highways that the needs of roads in warfare do not differ materially from those in time of peace. Bridges and culverts should be able to sustain 15 tons.

Most of the new roads fill these requirements. The roads of the South are almost uniformly of sand and clay, some of them surfaced with gravel. California has constructed most of the road connecting with the proposed Dixie Highway—from Los Angeles to San Diego and from there to Yuma—of concrete, an expensive construction which those States not so thickly populated could scarcely afford. The Government has expressed the necessity for having more massive foundations than this country has considered necessary heretofore.

The roads now being built which are expected to withstand time and traffic are gravel, macadam, bituminous macadam, rock-asphalt macadam, cement concrete, bituminous concrete, asphalt block, and brick roads.

The coming of the motor vehicle made it necessary to devise some method of dust prevention and the ravelling of the formerly popular macadam road. Numerous methods have been tried to devise a lasting road surface reasonably free from dust within the financial means of main-line country roads. The best method has been found to be that of broken stone bonded by a bituminous material which coats the fragments and fills the interstices. Refined tars, oil asphalts, and fluxed natural asphalts are the usual binders employed, and there are two methods—penetration and mixing—either one of which gives excellent satisfaction.

Facing unknown consequences of what will undoubtedly be a bitter war, it is wonderful to find that the road question has brought the people of the United States more closely together, that it has taught them to think Nationally rather than of matters bounded by the back fence. One's outlook is limited to one's output, and when there is no obstruction in all the world to accomplishment it leaves wide range for vision.

Marshall Joffre said that the corps of United States Army Engineers who went to France for road-building purposes were worth an army. It is to be hoped that all of those nations who are not the scene of the actual fighting, will look to their roads and thereby encourage universal production. For the struggle for liberty is not over. Upon those nations whose resources have not been depleted rests the responsibility for the regeneration of civilization.

PAN AMERICAN NOTES

ESTABLISHMENT OF INTERNATIONAL BUREAU OF TRADE-MARKS AND COMMERCIAL NAMES AT HABANA, CUBA.

ON December 6, 1917, the President of Cuba, by official decree, established the Habana bureau of the International American Union for the Protection of Trade-Marks and Commercial Names, and appointed as its director Dr. Mario Diaz Irizar, a distinguished lawyer of Cuba, who has made a special study of the laws of trade-marks, patents, and copyrights.

The establishment of this office is the result of the Convention for the Protection of Trade-Marks and Commercial Names which was concluded by the representatives of the countries which participated in the Fourth International American Conference held in Buenos Aires in 1910. This convention created an International American Union, whose activities were to become effective upon the ratification of the convention by two-thirds of the countries of each of the two groups into which the American nations were divided. The northern group, consisting of Costa Rica, Cuba, Dominican Republic, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Salvador, and the United States, are to have their trade-marks registered in the international bureau established in Habana; the southern group, consisting of the countries of South America, are to have their international bureau located in Rio de Janeiro. Two-thirds of the northern group having ratified the convention, the establishment of the bureau at Habana was in order and the action of the President of Cuba carries out the terms of the treaty. The required two-thirds of the southern group of nations has not yet ratified the convention.

Article XII of the convention referred to prescribes that the international bureaus shall have the following duties: Keep a register of the certificates of ownership of trade-marks issued by any of the signatory States; collect such reports and data as relate to the protection of intellectual and industrial property and publish and circulate them among the nations of the union, as well as furnish them whatever special information they may need upon this subject; encourage the study and publicity of the questions relating to the protection of intellectual and industrial property; publish for this purpose one or more official reviews, containing the full texts or digests of all documents forwarded to the bureaus by the authorities of the signatory States. The Governments of said States shall send to the International American Bureaus their official publications which contain the announcements of the registration of trade-marks.

BRAZIL'S MILITARY COMMISSION TO THE UNITED STATES.
Copyright by International Film Service.

On December 5 there arrived at an American port the Brazilian Military Commission, composed of eight members, headed by Lieut. Col. Alípio Gama. On its arrival the commission was met by Senator H. C. de Moraes Pinto, the consul general of Brazil in New York, and by Capt. Lieut. Leopoldo Nogueira Moreira, naval attaché of the Brazilian Embassy at Washington. In the picture Col. Gama carries a cane. On his left is Senator H. C. de Moraes Pinto, Jr., John Doe, Other members of the commission are Capt. Jacob Maquieira, Capt. Atílio Bueno, Capt. A. M. Barboza Lisboa, Lieut. Otton Oliveira Santos, Lieut. Luís Procópio G. Pinto, Jr., John Doe, O. Brandao, Jr., and Joaquim Campos, C. E. Other members of the commission are Maj. José Borges Forges, Capt. Alexandre Galvão Bueno, Capt. Marcoílio Furtado, Lieut. Luís Procópio de Souza Pinto, 2nd Lt. Franklin Rodrigues, John B. do O. Brandao, Jr., and Joaquim Campos, C. E. The mission arrived in Washington December 28, for a three-day visit, and was presented to the Secretary of State by His Excellency Domicilio da Gama, the Ambassador from Brazil. Late they visited the Army War College and Fort Myer, and made an excursion to Mount Vernon where the head of the mission, Col. Gama, placed, with appropriate remarks, a wreath upon the tomb of Washington. The commission has established an office at room 1606, 120 Broadway, New York City.



and commercial names, and the grant of patents and privileges, as well as the judgments rendered by the respective courts concerning the invalidity of trade-marks and patents. The bureaus shall communicate to the Governments of the union any difficulties or obstacles that may oppose or delay the effective application of the convention; aid the Governments of the signatory States in the preparation of international conferences for the study of legislation concerning industrial property, and secure such alterations as it may be proper to propose in the regulations of the union, or in treaties in force to protect industrial property; present to the Governments of Cuba and of the United States of Brazil, respectively, yearly reports of their labors, which shall be communicated at the same time to all the Governments of the other States of the union; initiate and establish relations with similar bureaus and with scientific and industrial associations and institutions for the exchange of publications, information, and data conducive to the progress of the protection of industrial property; investigate cases where trade-marks, designs, and industrial models have failed to obtain the recognition of registration provided for by the convention on the part of the authorities of any one of the States forming the union, and communicate the facts and reasons to the Government of the country of origin and to interested parties, and cooperate as agents for each one of the Governments of the signatory States before the respective authorities for the better performance of any act tending to promote or accomplish the ends of the convention.



Thirty Years with the Mexicans: In Peace and Revolution. By Alden Buell Case, New York, Fleming H. Revell Co., 1917. 285 p. front. plates. 8°. Price. \$1.50.

Laws (abstracts) and Board Rulings. Regulating the practice of medicine in the United States and brief statements regarding medical registration abroad. Revised to January 2, 1917. 25th edition. Chicago, American Medical Association, 1917. 221 p. 8°. Price, 30 cents.

American Indian Corn. (Maize.) A cheap, wholesome, and nutritious food; 150 ways to prepare and cook it. By Charles J. Murphy. Revised and edited with addition of many new recipes and a foreword by Jeannette Young Norton. New York, G. P. Putnam's Sons, 1917. xiii, 128 p. 8°. Price, 75 cents.

The Statesman's Year-Book. Statistical and historical annual of the states of the world for the year 1917. Edited by J. Scott Keltie . . . Fifty-fourth annual publication. Revised after official returns. New York, Macmillan and Co., 1917. xliv, 1504, 12 p. 12°. Price, \$4.50.

South American Markets for Dried Fruits. By Walter Fisher . . . Washington, D. C. Bureau of Foreign and Domestic Commerce, Special agents series, No. 148, 1917. 35 p. 8°. Price, 5 cents.

The Brazilians and Their Country. By Clayton Sedgwick Cooper . . . New York, Frederick A. Stokes Co., 1917. xvi, 403 p. front. plates. map. 8°. Price, \$3.50.

Diplomatic Days. By Edith O'Shaughnessy . . . New York, Harper & Bros., 1917. (8), 337, (1) p. front. plates. 8°. Price, \$2.

The Book of the West Indies. By A. Hyatt Verrill . . . New York, E. P. Dutton & Co., 1917. xvi, 458 p. front. plates. map. 8°. Price, \$2.50.

The Early History of Cuba, 1492-1586. Written from original sources by I. A. Wright. New York, The Macmillan Co., 1916. xvii, 390 p. front. 8°. Price, \$2.

The Quest of El Dorado. The most romantic episode in the history of South American conquest. By the Rev. J. A. Zahm . . . New York, D. Appleton & Co., 1917. xiv, 260, (1) p. 8°. Price, \$1.50.

Jews of Latin America. By Harry O. Sandberg. In the American Jewish Year Book 5678. September 17, 1917, to September 6, 1918. p. 35. Philadelphia, The Jewish Publication Society of America, 1917. 8°.

The Mineral Industry: Its statistics, technology, and trade during 1916. Edited by G. A. Roush . . . Volume XXV. New York, McGraw-Hill Book Co. (Inc.), 1917. xviii, 939, 16 p. 4°. Price, \$10.

Exporters' Encyclopaedia. Thirteenth (1917-18) edition. Containing full and authentic information relative to shipments for every country in the world. New York, Exporters' Encyclopaedia Co., 1917. viii, 1315 p. 8°. Price, \$7.50.

The Argentine Civil Code (effective January 1, 1871). Together with constitution and law of civil registry. Translated by Frank L. Joannini, from the original text as officially promulgated. . . . Boston, The Boston Book Co., 1917. l ix, 732 p. 4°. Price, \$5.

Memoranda on the Mexican Situation. By Edward D. Trowbridge. Detroit, 1916. 19 p. 4°.

The West Indies as an Export Field. By Garrard Harris, special agent, and various American consular officers. Washington, Bureau of Foreign and Domestic Commerce. Special agents series, No. 141. 1917. 378 p. front. plates. map. 8°. Price, 50 cents.

Customs Tariff of Chile. . . . Washington, Bureau of Foreign and Domestic Commerce. Tariff series No. 36. 1917. 104 p. 8°. Price, 15 cents.

Commercial Organizations of the United States. Washington, Bureau of Foreign and Domestic Commerce. Miscellaneous Series, No. 61. 1917. 112 p. 8°. Price, 15 cents.

South American Opinions on the War. I. Chile and the war. By Carlos Silva Vildósola. II. The attitude of Ecuador. By Nicolás F. López. Translation from the Spanish by Peter H. Goldsmith. Washington, Carnegie Endowment for International Peace. Division of Intercourse and Education. Publication No. 14. 27, (5) p. 4°. 1917.

Moseteno Vocabulary and Treatises. By Benigno Bibolotti . . . From an unpublished manuscript in possession of Northwestern University Library. With an introduction by Rudolph Schuller . . . Evanston and Chicago, Northwestern University, 1917. cxiii, 141 p. front. map. 8°.

Elementary Spanish Prose Book. By Lawrence A. Wilkins . . . (The Hispanic series). Chicago, New York, Boston, Benj. H. Sanborn & Co., 1917. xiv, 482 p. front. illus. 8°. Price, \$1.25.

Cuba. "The Pearl of the Antilles." Ninety miles off the coast of the United States. By Ramón Bustamante. St. Louis, Foreign Publishing Co., 1916. 267, iv p. pls. 8°.

Hugo Grotius, the father of the modern science of international law. [By] Hamilton Vreeland . . . New York, Oxford University Press, 1917. xiii, 258 p. 8°. Price, \$2.

Trade Acceptances. [By] Robert H. Treman, deputy governor, Federal Reserve Bank of New York. New York. Printed by Adams & Grace Co., 1917. 44 p. 8°.

Annual Report of the Director to the Board of Trustees for the year 1916. Chicago, Field Museum of Natural History. Publication 194, Report series. Vol. V, No. 2. 1917. front. port. plates. pp. 75-146. 8°.

A Spanish Reader for Beginners. By M. A. DeVitis. Boston, New York, Chicago, Allyn & Bacon, 1917. xiv, 141 p. front. illus. map. 8°. Price, \$1.25.

Paper, Paper Products, and Printing Machinery in Peru, Bolivia, and Ecuador. By Robert S. Barrett, special agent. Washington, Bureau of Foreign and Domestic Commerce. Special agents series No. 143. 1917. 77 p. front. 8°. Price, 10 cents.

Pimelodella and Typhlobagrus. By Carl H. Eigenmann. Pittsburgh, Memoirs of the Carnegie Museum. Vol. VII, No. 4. April, 1917. pp. 229-258. plates. illus. 4°.

Miguel de Cervantes Saavedra. Reseña documentada de su vida. Por Jaime Fitzmaurice-Kelly . . . Traducción española con adiciones y enmiendas revisadas por el autor. Londres, Humphrey Milford en las prensas de la Universidad de Oxford, 1917. 254 p. front. port. Price, 9 pesetas.

Anuario Bibliográfico de Venezuela 1915. (Anuario primero de su publicación.) Manuel Segundo Sánchez. Caracas, Litografía del Comercio, 1917. 71 p. 8°

SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED UP TO DECEMBER 15, 1917.¹

Title.	Date.	Author.
ARGENTINA.		
Annual pedigree live stock show.....	Oct. 9	W. Henry Robertson, consul general, Buenos Aires.
Argentine foreign trade—first half of 1917 compared with the same period of 1916.	Oct. 15	Do.
Proposed export taxes.....	Oct. 16	Do.
BRAZIL.		
Suspension of Lloyd Brasileiro steamship service to Europe.	Oct. 10	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Incorporation of chemical works company.....	Oct. 17	Do.
Need of rabbit hair for felting.....	Oct. 19	Do.
Annual report on commerce and industries for 1916....	Oct. 20	Do.
Paper company.....	Oct. 23	Do.
Electric plants.....	do.....	A. T. Haebler, consul, Pernambuco.
Steamer service between Panamá and Buenos Aires.....	Oct. 29	A. L. M. Gottschalk, consul general, Rio de Janeiro.
Exports for first six months of 1917.....	Nov. 1	Do.
Shipping statistics for 1916.....	Nov. 5	Do.
Project for creation of Brazilian "haras," or equine stud.	Nov. 7	Do.
CHILE.		
National Chamber of Commerce for Chile.....	Oct. 29	L. J. Keena, consul general, Valparaíso.
COLOMBIA.		
Concession for gas service given by Barranquilla.....	Nov. 3	Claude E. Guyant, consul, Barranquilla.
COSTA RICA.		
Regulations as to importation of containers for exporting products.	Nov. 17	Benjamin F. Chase, consul, San José.

¹ This does not represent a complete list of the reports made by the consular officers in Latin America, but merely those that are supplied to the Pan American Union as likely to be of service to this organization.



8

T

A

A

E

I

I

I

Reports received up to December 15, 1917.

Title.	Date.	Author.
DOMINICAN REPUBLIC.		
Wages in the Dominican Republic.....	1917.	
Opening of electric tramway.....	Nov. 5	Arthur McLean, consul, Puerto Plata.
Requirements of American corporations to operate in Dominican Republic.	Nov. 7	Do.
Cacao.....	Nov. 9	Do.
Lotteries.....	Nov. 10	Do.
Climate.....	do.....	Do.
Rice imports, 1912-1916.....	Nov. 17	Do.
Highway construction.....	Nov. 23	Do.
	Nov. 26	Clement S. Edwards, consul, Santo Domingo.
ECUADOR.		
New law on rate of exchange.....	Oct. 30	Frederic W. Goding, consul general Guayaquil.
Guayaquil market for October, 1917.....	Nov. 8	Do.
HONDURAS.		
Rate of exchange.....	Nov. 22	Walter F. Boyle, consul, Puerto Cortes.
Milling of corn meal.....	Nov. 27	Do.
MEXICO.		
Flood ruins banana and other crops in district.....	Oct. 20	Thomas D. Bowman, consul Frontera.
Labor provisions of the new constitution of the State of Vera Cruz.	Nov. 15	Wm. W. Canada, consul, Vera Cruz.
Receipts of Vera Cruz customhouse during October, 1917.	do.....	Do.
Supply of flour in San Luis Potosi.....	Nov. 21	Cornelius Ferris, Jr., consul, San Luis Potosi.
Moving picture made at Boca del Rio.....	do.....	Wm. W. Canada.
School of commerce to be opened in Orizaba.....	do.....	Do.
Special tax on Coffee plantations removed by State of Vera Cruz.	Nov. 26	Do.
Special State tax on rural properties, State of Vera Cruz.....	do.....	Do.
VENEZUELA.		
Declared exports from Puerto Cabello July 1 to Sept. 30, 1917.	Sept. 30	Frank Anderson Henry, consul, Puerto Cabello.
Hydroelectric development in the Puerto Cabello dis- trict.	Oct. 31	Do.
Shipments of castor beans from Puerto Cabello, Janu- ary-October, 1917.	do.....	Do.
Report on commerce and industries for year 1916.....	Nov. 13	Do.



ARGENTINE REPUBLIC

According to the estimate of the director of the rural economy and statistical office of the department of agriculture of the Argentine Government, the SUGAR PRODUCTION of the Republic during the last five years, in metric tons (metric ton = 1,000 kilos or 2,204.6 pounds), was as follows: In 1913, 276,140; 1914, 335,955; 1915, 149,299; 1916, 84,069; and in 1917 (estimated), 85,000. Of the 1917 crop the yield of the Province of Tucuman is estimated at 45,000 metric tons, and that of the Provinces of Jujuy, Salta, Santa Fe, etc., at 40,000 tons. The estimated annual consumption of sugar in the Argentine Republic in normal times is given as 220,000 metric tons. In 1916 the imports and exports of sugar in the Argentine Republic amounted to, respectively, 30,326 and 404 tons.—The HARVEST OF CEREALS, such as wheat, flax, and oats, begins each year in the Province of Santa Fe, or northern part of the Republic, about the middle of November, the crops gradually ripening toward the south until the middle of December, at which time the wheat harvest in the Provinces of Buenos Aires and Bahia Blanca is at its maximum. During the last few years the immigration of farm laborers from Italy, Spain, and other countries of southern Europe has practically ceased. Notwithstanding this fact there is at the present time an abundant supply of unoccupied labor in the country that can be utilized in harvesting the crops, such, for instance, as laborers and artisans employed in normal times in the building trades and similar industries, so that the prospect of saving the entire crop is very flattering. In 1915-16 about 700 thrashers, with their respective motors, were imported into the Republic, and during the last 30 months nearly 15,000 reapers, binders, and other agricultural machines were brought into the country. There are also facilities for storing the grain for a limited time in railway elevators and private granaries, thereby tending to keep it out of the hands of speculators. Fortunately the supply of jute and other sacks is reported to be sufficient to meet the demands required in harvesting millions of tons of grain. While the quantity of binder twine in the country is not excessive, it is said to be ample for present needs, inasmuch as 350,-000 kilos of this twine recently arrived, and it is estimated that about one-half of the 7,414,541 kilos imported in 1916 are available for use during the present harvest. It is understood that the Argentine Government, through the national bank, will provide farmers with money for use in harvesting their crops. No estimate is at hand as to the yields of the present crops of wheat, linseed, and oats, but the area sown to these grains in the entire Republic is as follows: Wheat, 7,115,000 hectares (hectare = 2.47104 acres); flax, 1,340,000; and

oats, 1,155,000 hectares.—The Goss PRINTING PRESS Co. of Chicago recently installed one of its large machines, weighing 63,500 kilos and having a capacity of 72,000 sixteen-page newspapers per hour, in the office of "La Union" (the Union) of Buenos Aires. Prior to the installation of this machine "La Union" was served by four large printing presses of French and German manufacture.—The INDUSTRIAL EXPOSITION, held in Buenos Aires under the auspices of the Argentine Industrial Union, had 100,000 visitors in November last. Steps have been taken looking to the construction of an industrial palace in the national capital for the purpose of maintaining permanent exhibits there.—The treasury department of the Argentine Government disbursed 1,836,175 pesos currency (paper peso = \$0.4245) in payment of SANITARY WORKS completed in September, 1917.—A bill providing for the establishment, under the direction of the national bank, of an AGRICULTURAL COMPENSATION FUND for the insurance of farmers against loss of crops has been introduced into and unanimously passed by the House of Delegates of the Argentine Congress.—The Rural Argentine Society has offered competitive prizes, consisting of medals, diplomas, and cash, for the best 1½-kilo samples of unginned COTTON, or samples of from 25 to 50 bolls of unginned cotton, grown in the Republic. The samples must be received in the national capital before January 1, 1918, and will form part of the permanent cotton exhibit of the agricultural museum of the Rural Argentine Society in Buenos Aires. At the present time there are about 5,000 hectares of land under cotton cultivation in the Argentine Republic, but steps are being taken to increase this area within the next few years to more than 100,000 hectares.—In 1916 the length of the TELEGRAPH LINES in operation in the Republic aggregated 86,439 kilometers (kilometer = 0.62137 mile), made up of lines along railways, 85,900, underground lines, 168, and cable lines, 371 kilometers.—The Pampa AGRICULTURAL CONGRESS met in Buenos Aires December 8–10, inclusive, 1917.



It is reported that a commission of Peruvian engineers will at an early date make additional surveys for a proposed link of railway between Puno on Lake Titicaca and the Desaguadero River in Bolivia. A RAILROAD following the shore of Lake Titicaca, which has long been contemplated, would quicken the service between Peruvian and Bolivian railways, a connection now performed by steamers on Lake Titicaca, traversing a distance of about 125 miles.—*El Tiempo*, a newspaper of Potosí, states that the Geographic

Society of La Paz and the Royal Geographic Society of Madrid are interested in preparing a DICTIONARY of the languages of the Aymará, Quechuas, and Guarani Indians of Peru, Bolivia, and Paraguay. To the student of ancient peoples such a work would be of inestimable value, and in its preparation certain facts might be established wherein some of the unknown hieroglyphics found to-day on monuments in Andean lands could be made known. — The chief engineer of the construction work on the RAILWAY between Potosí and Sucre has made a report to the minister of fomento in which is shown the amount of work accomplished to date. A large number of laborers are employed and the enterprise is progressing in a satisfactory manner. — The Argentine boy scout, Santiago Pena y Lillo, who is TRAVELING OVER SOUTH AMERICA recently arrived in La Paz from Arica. This vigorous young man left Mendoza, Argentina, on July 15 last and to date has visited various regions of northern Argentina, parts of Chile, and will now undertake to see different sections of Bolivia before continuing his journey to other countries of South America. He travels largely on foot. — El Tiempo of La Paz under date of October 19, carries the provisions of the national law relative to the establishment of AUTOMOBILE SERVICE between the southern city of Tarija and Villazon. Funds for highway construction will be appropriated and raised from various sources, and ere long motor cars may be purchased for the proposed route, which will open a region of the country abounding in agricultural possibilities. Tarija lies about 80 miles northeast of the Argentina boundary town of La Quiaca, and in the past a considerable amount of trade from southern Bolivia has passed to the railroad at La Quiaca for outside markets. The proposed motor-car service is likely to alter the course of traffic and also greatly quicken the exportation of Bolivian products. — The Bolivian engineer, Don Quintin Aramayo Ortiz, has prepared an important paper bearing on the richness of the POTOSI MINING REGION, based on the results of his investigations. This paper was recently discussed at length at a meeting in La Paz and was published in the daily press of that city. — Bolivian newspapers carry announcements of the opening of a modern factory for the MANUFACTURE OF CHOCOLATE, which has been established in the city of La Paz. The unusual demand for food products and the progressive enterprise of Don Armando Yepez Villafuerte are responsible for the new factory, which will make use of the Bolivian raw product and supply home and possibly foreign markets. Machinery was imported from abroad, and includes a mill for the grinding of various classes of grain. A branch of the new establishment will manufacture soda water and other soft drinks. — In the reassignment of CABINET OFFICIALS President Guerra has asked Don Ricardo Mujia to be minister of foreign relations; Don Julio

Zamora changes to the portfolio of gobierno, and Gen. Fermin Prudencio becomes minister of war and colonization. Otherwise the cabinet remains the same as first organized, with the exception of Dr. Muñoz, who retires.



The COFFEE SHIPMENTS from Brazil during the first six months of 1917 consisted of 5,157,000 bags, as compared with 5,924,000 bags during the same period of 1916. The entire output of coffee in Brazil for 1917 is estimated at 19,000,000 bags.—The Parana PAPER Co. (Inc.), a corporation organized under the laws of the United States, has been authorized to do business in Brazil. Recent investigations in the northern part of the Republic show that the plant called aninga, which is found in abundance on Marajo Island, and generally throughout the region of the lower Amazon and its branches, is well adapted to the manufacture of paper. As yet, however, no commercial use has been made of this fiber, but with proper machinery it is thought that it can be used to advantage in the manufacture of paper.—The Lloyd Brasileiro STEAMSHIP LINE, a company belonging to the Brazilian Government, commenced a service in October last between Para, Brazil, and Buenos Aires, Argentine Republic. The *Rio de Janeiro*, a vessel formerly plying between New York and Brazilian ports, is the first steamer to be utilized in this service. On the southbound trips stops will be made at the principal Brazilian ports, including Santos, Paranagua, and São Francisco, and at Montevideo, Uruguay, and Buenos Aires, the final destination. Calls will be made on the northern trip at the Brazilian ports of Santos, Rio de Janeiro, Bahia, Pernambuco, Ceara, and Para.—The exports of CONGEALED MEATS from Brazil during the first nine months of 1917 aggregated 50,470 tons, valued at £2,152,608, as compared with 26,302 tons, during the same period of 1916, valued at £1,084,223. A new packing house has just been opened at Sítio, State of Minas Geraes, and another, with a capacity for handling 400 head of cattle per day, will soon be completed and put in operation at Barbacena, State of Minas Geraes.—The Central Railway of Brazil has requested bids for supplying it with 200,000 of American and 50,000 tons of domestic COAL during 1918.—The Sanitary Bureau of Statistics and Demography of the city of Rio de Janeiro estimates the POPULATION of the federal district on August 31 last at 920,865 inhabitants, 705,778 of whom live in the national capital and 215,087 in the suburban districts.—The exports of MANGANESE for the first seven months of 1917 aggregated 332,497 tons, as compared with 61,700 tons during the same period of 1913. The value of Brazilian

exports from January 1 to August 31, 1917, inclusive, was £34,727,000.

—Commander Gregorio Seabra, president of the Brazilian AERO CLUB, the headquarters of which are in Rio de Janeiro, has appointed the Brazilian aviators Dariolo and Bergmann, respectively, aviation instructor and technical director and chief pilot of the organization.

—In December, 1917, the Argentine Government authorized an additional shipment of 30,000 tons of WHEAT to Brazil.—The production of MAIZE in the State of São Paulo during the agricultural year 1916-17 is estimated at 11,659,400 sacks (sack contains 100 liters), that of rice, 2,628,000, and that of beans 2,955,850 sacks.

—The minister of public instruction of the Government of Brazil has established a chair of SPANISH in Pedro II College at Rio de Janeiro, and the students of the University of Manaos have requested that a special course of Spanish instruction be given in that institution.—The manufacture of VEGETABLE OILS in the State of São Paulo is beginning to be an industry of considerable importance.

Cotton seed is the principal source of the raw material for the manufacture of these oils. Two mills are now in operation in the State, one of which has been working for about two years. The cottonseed oil produced is suitable for cooking and soap making. While the main supply of cotton seed is obtained in the State, a considerable quantity is imported, the imports of this article in 1916 amounting to 244,744 pounds, valued at \$32,960. Other raw materials obtainable in the State of São Paulo for the manufacture of vegetable oils are linseed, castor beans, and peanuts, all of which are now being utilized in this new industry. In addition to the sources mentioned in the foregoing, there are a number of valuable oil-bearing nuts that can be gathered from the forests of the State, among which may be mentioned the cashew, the ucuba, and the habsu.—The first ACADEMIC CONGRESS of Pernambuco met in Santa Izabel Theater in Pernambuco on October 12, 1917. Aurelio Silva was elected president, and Dr. Oliveira Lima honorary president of the congress. Among the papers read and discussed were the following: Neutrality; Fines established by the Civil Code of Brazil; The future of Brazil; Crime; Hybridism, etc.—Steps have been taken looking to the establishment in Rio de Janeiro of the Yokohama Specie BANK, a Japanese institution, one of the chief objects of which is the encouragement of commerce between Japan and Brazil.



The consumption of SUGAR in Chile, according to statistics published in the daily press, amounts to about 84,000 tons annually, of which over 73,000 tons are imported from Peru. Investigations

show that sugar cane can be profitably grown in a number of zones of the Republic, such, for instance, as the Taena Valley, Easter Island, Valdivia, Llanquihue, and Chiloe covering an approximate area of 60,000 hectares capable of producing 120,000 tons of sugar annually. A movement, which is said to have the support of the administration and of prominent members of Congress, is under way in the Republic to encourage the cultivation of sugar cane and sugar beets, as well as investments in sugar refineries, the latter to be guaranteed 6 per cent on their capital for a period of 20 years, provided always the amount of such guarantee does not exceed 50 pesos gold (gold peso = \$0.365) per ton of saccharine extracted. Persons in favor of this plan assert that could it be put into operation Chile would retain at home the 9,000,000 pesos gold annually which she sends abroad in payment of imports of sugar, besides giving employment to 6,000 Chilean workmen and creating values per hectare of cultivated sugar-producing lands of 1,500 pesos, and at the same time enable the refineries of the country to earn 12 per cent on their invested capital. The annual imports of raw sugar into Chile amount to nearly 75,000 tons. In 1915 the Penco and Viña del Mar refineries refined over 58,000 tons of raw sugar at a profit of about 85 pesos per ton. During the 10 years 1905 to 1914, inclusive, the duties on raw sugar imported into Chile aggregated 34,774,966 pesos, while the earnings of the refineries during the same period amounted to 43,554,498 pesos. It should be borne in mind that there is a considerable area of rich soil in Chile suitable to the growth of sugar beets, and that a beet-sugar refinery can be maintained on the production of 4,000 hectares of cultivated sugar beets. Chile, therefore, possesses all of the elements, if properly developed, to insure the production of the sugar consumed in its own markets and have a surplus for export.—The RAILWAY EXPENSE BUDGET of the Government of Chile for 1918 estimates the necessary expenses at 96,739,654 pesos (peso currency = \$0.296), and additional extra expenditures for track repair, equipment, machinery, electric installations, and furniture, 16,783,832 pesos. The probable receipts from the central and northern railway systems for the year in question are given as 90,417,000 pesos.—The STOCK FAIR, which was held in the national capital from October 25 to 28, 1917, inclusive, under the auspices of the National Society of Agriculture, is reported to have been the most successful of its kind which ever met in the Republic. Among the cattle exhibits were 28 Durham, 22 Holland, and 16 Lincoln Red bulls, while the exhibit of pure-bred cows consisted of 14 Durham, 22 Holland, and 11 Lincoln Reds. The fair showed that Durham milch cows in Chile are being substituted for the Holland and Lincoln Red breeds, the Holland breeds being especially favored on account of their greater production of milk. Of the horse exhibits there were 11 hackney stallions and 21 mares; 20 heavy draft stallions

and 13 mares, and 43 Chilean stallions and 39 mares. The exhibits of sheep consisted of 61 rams and 31 ewes, and of hogs, 18 boars and 33 sows.—A spring EXHIBITION OF FRUITS and vegetables was held in Santiago from December 23 to 25, inclusive, 1917. Heretofore public exhibits of Chilean fruits and vegetables have only been made in the fall of the year. The Agronomic Society recently concluded to have three fruit and vegetable fairs in Chile, that is to say, in spring, summer and fall. December in the Chilean Republic is a spring month, and the fruits ripening at that time are cherries, peaches, strawberries and other small fruits, pears, grapes, etc., together with a large variety of vegetables, most of which, at the season mentioned, come from the northern part of the Republic.—A message has been sent to Congress asking for authority to construct in the national capital, in connection with the School of Medicine, a building for the SCHOOL OF MIDWIVES and nursing of infants, the estimated cost of which is 1,225,000 pesos currency. The proceeds of the sale of an issue of State bonds bearing 8 per cent annual interest and 2 per cent amortization is recommended for use for this purpose.—The department of industry of the Government of Chile has authorized Martin Raby to study the systems of mining, transporting, and marketing of COAL in the United States and Japan, together with labor conditions in this industry in the two countries referred to.—The President of the Republic has recommended that Congress appropriate 1,370,000 pesos currency for a new building in Santiago for the AGRICULTURAL INSTITUTE and its annexes.



The first PUBLIC IMPROVEMENT CONGRESS in Colombia met in Bogota from October 14 to 20, inclusive, 1917, with delegates in attendance from all of the Departments of the Republic.—The press of the national capital announces that the Santa Marta RAILWAY question has been definitely settled in accordance with the provisions of law 79 of 1915, and of decree No. 36, issued in 1917, of the Department of Magdalena. Under this settlement the State acquired and has exercised the right to purchase the railway.—The SALT MINES of the Republic produced in 1916 salt valued at \$958,000 gold.—A report of the department of public works shows that since beginning work on the NATIONAL CAPITOL in 1847 the expenditures to June last amounted to \$1,579,831, not including work done in the period from 1885 to 1906, during which time the accounts relating to the expenditures thereon are not available.—On November 10 last a STATUE in honor of Miguel Antonio

Caro, an eminent Colombian poet, critic, philologist, writer, and statesman, was unveiled in Bogota. The Academy of Language building, erected in the national capital on the site where Sr. Caro lived, was also opened for use on the date referred to.—The annual COMPETITIVE PRIZES offered by the National Academy of History were adjudicated on October 28 last, and the subject for the 1918 competition, namely, "Los extranjeros en la guerra de independencia de la actual República de Colombia" (The foreigners in the war of independence of the present Colombian Republic) was announced.—New LIGHTHOUSES were recently opened for service at Sal Medina and Isla Fuerte, the former situated 1 and the latter 8 miles from Cartagena Bay. The cost of these lighthouses amounted to \$100,000. They have steel towers, solid concrete foundations, are provided with beautiful lawns, and surrounded by iron fences. Construction work is soon to be commenced on another lighthouse of the same type on Manga Island, toward the building of which the legislature of the Department of Bolívar has appropriated \$50,000.—The Senate of the Congress of Colombia has sanctioned a bill requiring the municipal authorities to take a POPULATION CENSUS of the Republic early in 1918, the exact date for the taking of same throughout the country to be announced later.—Arrangements have been made for the preparation of PUBLIC BATHING BEACHES for school children at Ladera on the Medellin River near the city of Medellin.—A society was organized at Cali, Department of Valle, in October last with the aim of founding a SANITARIUM, modernly equipped and prepared to treat and care for cases in the most up-to-date manner known to medical science at the present time.—A CORSET FACTORY has been established at Medellin with a capacity for producing 20 dozen corsets per day.—A cracker and CANDY FACTORY recently began operations in Medellin, equipped with 30 machines, capable of producing 80 kinds of crackers and candies. The principal raw materials used in this factory are flour, sugar, eggs, milk, and butter.—About the middle of October, 1917, the *Cali*, a new STEAMBOAT built in Colombia principally by native workmen, was added to the fleet of the Antioquian Navigation Co., for service on the Cauca River.—A TELEGRAPH answer-paid service has been established for one year from November 1, 1917, with Ecuador, subject to the conditions under which this service is rendered in Colombia.—The Senate has sent to the House of Representatives a bill providing for the establishment of PACKING HOUSES on the Atlantic coast of the Republic. Under this bill the Government proposes to guarantee for four years 7 per cent interest on capital invested in this enterprise, not to exceed £400,000, to the first person or company establishing a packing house equipped for handling cattle, sheep, and hogs and with cold storage facilities for storing and exporting these products.

COSTA RICA

The BUDGET of the Government of Costa Rica for 1918 gives the estimated receipts as 9,173,000 colones (colon = \$0.4653), and the estimated expenditures at 9,140,427 colones. The receipts in detail are as follows: Export duties, 1,763,000 colones; direct taxes, 1,000,000; customs revenues, 2,200,000; liquors, 2,300,000; sealed paper, 110,000; document and postage stamps, 270,000; telegraph receipts, 300,000; Pacific Railway, 850,000; Government printing office, 10,000; public registry, 50,000; export tax on bananas, 200,000, and other receipts, 120,000 colones. The expenditures for the different departments of the Government amount to 6,330,056 colones, and for account of the public debt, 2,810,371 colones.—According to "La Información", a daily newspaper of San Jose, Costa Rican stockmen have contracted with a North American packing house to fatten and deliver 4,000 head of BEEF CATTLE. Exports of cattle from Costa Rica are at present prohibited, but it is believed that the Government will authorize the exportation of the cattle referred to.—The secretary of public instruction has established in the National Museum at San Jose, a DEPARTMENT OF EXHIBITS of articles made of domestic materials by the manual training schools of the Republic. The articles placed on exhibition will be accompanied by a statement giving the scientific and common names of the materials out of which they are made, the places of origin, how cultivated or prepared, their uses and applications, details of their manufacture, the uses the school can make of them, and such other information as may be deemed expedient in giving a better understanding of the uses and purposes to which they may be put. The museum will also exhibit articles made by the manual training schools of materials not found in the country.—Dr. José María Castro and Enrique Velasquez have been authorized by the department of demento (promotion) to engage in COAL MINING in the Province of Limón. The coal in question is supposed to be of a better quality than that of Alajuela, and if such proves to be the case it is planned to use it extensively as a fuel for the locomotives of the Pacific Railway.—Congress has enacted a law authorizing the issuance of INSURANCE in Costa Rica to cover the following risks: By fire, loss of crops, life, accidents, maritime, land and fluvial transportation. This insurance law, which became operative October 16, 1917, contains 51 articles.—The Guadalupe SAVINGS SOCIETY, with headquarters in the national capital, has established a savings department for minors in which deposits of not less than 5 centimes (about 2½ cents) will be accepted. The object of the association

is to encourage children to form thrifty and saving habits.—The chairman of the CHINESE BOARD OF TRADE of Panama, the Chinese consul in San Francisco, Cal., two commercial attachés, and a number of prominent Chinese merchants recently visited Costa Rica to investigate trade conditions in that country with the object of encouraging trade between the two Republics.—The Costa Rican press states that important negotiations are under way looking to the sale in Great Britain of large quantities of Costa Rican COFFEE. Similar steps are to be taken in France and Spain.—The mint at San Jose has been authorized by an executive decree to prepare COPPER COINS of the denomination of 10 centimes for immediate circulation up to a value of 50,000 colones.—Luis Paulino Jiménez Ortiz and Francisco de Paula Gutiérrez Ross have been authorized to organize a company to install and operate an electric LIGHT AND POWER PLANT at Aguas Zarcas on the Banano River for the purpose of furnishing electric current to the city of Limón, the railways, and other interests in that vicinity.



A recent executive decree provides that persons guilty of infractions of the new PRICE LAW prescribed by the committee of national defense become liable to punishment by fine of from \$30 to \$500, or imprisonment of from 30 to 180 days or both, these punishments to be doubled in case of a repetition of the offense. The following are some of the prices fixed by the committee referred to: Refined sugar, 8 to 8.5 cents per pound; raw sugar, 5 to 5½ cents per pound; loaf sugar, 9 cents per pound; sirloin steak, 40 cents per pound; rump steak, 25 cents per pound; roasts, 20 cents per pound; stew beef, 10 cents per pound; bones, 5 cents per pound; best quality of fish, 5 to 20 cents per pound; grouper and cod fish, 9 to 15 cents per pound; other kinds of fish, including small varieties, 8 cents per pound; rice, 9 to 9½ cents per pound; black peas, 11 cents per pound; and corn meal, 6 cents per pound.—The Bonanza Mining Co. has been organized in Santiago de Cuba for the purpose of working all the MANGANESE MINES in Oriente. The president of the company is Domingo A. Galdos, and the vice president, Prudencio Bravo.—Congress has passed a bill providing \$50,000 to be used in fighting the BLACK FLY, an insect said to have been imported into Cuba from Florida.—According to La Lucha, a daily newspaper of Habana, at a meeting of the Cuban sugar commission and the international sugar committee held in New York City on December 1 an agreement was reached fixing the price of SUGAR at \$4.90 per 100 pounds, including cost and freight delivered in New

York, based on a 30-cent freight rate. This is equivalent to about \$4.60 f. o. b. Habana. This should give the consumer sugar at 8 cents a pound during the coming year.—Guiseppe Donato, a well-known Italian sculptor and former pupil of Rodin, has arrived in Habana and will enter a competitive contest conducted by the Cuban Congress for the erection of a MONUMENT to Gen. Maximo Gomez. In a former international competition for the erection of a statue to Gen. Maceo, the Italian sculptor Boni was awarded the contract.—The COMMERCIAL BANK of Cuba has been organized in Habana with a paid-up capital of \$500,000. The president of the new bank, whose headquarters are in the national capital, is Jesus Fernandez. Later on the bank proposes to establish branches in the principal cities of the island.—The national department of sanitation has adopted rules and regulations governing the operation of the FREE MARKETS recently opened by the municipality, providing, among other things, that sales shall close promptly at 2 p. m. and that no goods shall be left in the market from one day to another. Dr. Muñoz Rubalcaba has been appointed sanitary inspector of markets.—According to press reports the Government of Cuba has placed an order in the United States for a long distance, modern WIRELESS APPARATUS to be installed at Nueva Gerona, Isle of Pines.—An executive decree of November 12, 1917, authorizes Manuel P. Cadenas to build and operate an ELECTRIC TRAM-WAY in the city of Avila.—The Cuban STEAMSHIP CO. (Empresa Naviera de Cuba) owns and operates 14 vessels plying between the city of Habana, the Isle of Pines, Dominican, Cuban, and Porto Rican ports.—Press reports state that the cuban wood known as "majagua", which grows in the mountains of Pinar del Rio, is being tested with a view of utilizing it for the wooden parts of AIRPLANES.—The Isle of Pines has under cultivation 11,330 acres of FRUITS AND VEGETABLES, of which 8,349 acres are in citrus fruits, 640 in vegetables, 468 in pineapples, and 1,873 in miscellaneous crops.—According to Mercurio, a commercial daily newspaper of Habana, the net earnings of the CUBAN AMERICAN SUGAR CO. for the fiscal year ended September 30, 1917, were \$8,000,000, as compared with \$7,682,000 for the previous fiscal year.

DOMINICAN REPUBLIC

The decree concerning the importation of CONTRACT LABORERS into the Dominican Republic has been modified so as not to necessitate individual registrations. All that is now required is a certified copy, in duplicate, of the passenger list as prepared by port officials at port of embarkation, viséed by the Dominican

consular representative and giving the names and residences of such laborers. The captain of the arriving vessel shall furnish this list to the custom authorities at the port of debarkation, who will check the number of laborers debarking and certify to the correctness of the list. Should contract laborers of different nationalities arrive on the same vessel, separate duplicate lists must be furnished for each nationality arriving.—The Santa Fe Plantation & Sugar Co. of San Pedro de Macoris has been authorized to erect a fireproof WAREHOUSE of cement blocks in San Pedro de Macoris to be used exclusively for the storage of products belonging to the company.—Demographic STATISTICS of the Dominican Republic, covering the fiscal years 1910 to 1917, inclusive, as published in the Listin Diario, a daily newspaper of the city of Santo Domingo, show that the number of births were as follows: In 1910, 26,235; 1911, 27,407; 1912, 21,632; 1913, 27,332; 1914, 24,319; 1915, 29,431; 1916, 30,917; and during the fiscal year ended June 30, 1917, 33,941. During the latter year the births classified by sexes were: Males, 17,300, and females, 16,641. Taking these figures as a basis, the population of the Dominican Republic on June 30, 1917, was 917,320 souls, distributed among the different Provinces as follows: Santo Domingo, 154,810; Santiago, 150,081; La Vega, 109,486; Puerto Plata, 85,486; Azua, 84,081; Pacificador, 80,973; Espaillat, 69,891; Monte Christi, 62,297; Seybo, 54,513; San Pedro de Macoris, 30,919; Barahona, 21,135; and Samana, 13,648. The area of the Republic is given as 50,070 square kilometers, and the density of population 18.32 per square kilometer. The marriages during the period referred to were as follows: In 1910, 3,594; 1911, 2,442; 1912, 2,087; 1913, 2,557; 1914, 2,022; 1915, 2,064; 1916, 2,877; and in 1917, 3,445. The deaths during the fiscal year ended June 30, 1917, according to the official records, were 7,039.—The press of Santo Domingo strongly recommends the use of Venezuelan COAL for industrial purposes. Large deposits of coal exist on the Venezuelan coast in the vicinity of Coro. This coal could be brought in sailing vessels in a few days to Dominican ports and could be marketed at a minimum cost.—The question of establishing a PAPER FACTORY in Santo Domingo is being agitated. The forests of the country could supply a vast quantity of wood pulp for such an undertaking, and labor and other conditions seem favorable to the successful manufacture of paper in the Republic. Print paper is at the present time in great demand and large quantities are used in the Dominican Republic. A factory producing this kind of paper ought to be able to supply the home markets and find a ready sale for any excess in Haiti, Cuba, and other near-by countries.—The Dominican Republic, according to the Listin Diario, an important newspaper of the national capital, offers a promising field for the development of APICULTURE. The flora is rich, diversified, and abundant,

and the climate benignant the year round, so that colonies, under proper supervision, will make honey during the entire year. At the present time honey and beeswax command high prices in the markets of the world and the supply is insufficient to meet the demands of commerce.—RICE is one of the cereals that is being extensively cultivated in the Dominican Republic, and the yield during the present year has been abundant and of excellent quality.—The municipal council of the city of Santo Domingo has called for bids for the installation and operation of an electric LIGHT AND POWER PLANT in the national capital. Full particulars may be obtained from M. A. de Marchena, secretary, city of Santo Domingo. Offers will be received until March 20, 1918.



ECUADOR

A vessel of the Pacific Steam Navigation Co. recently sailed from Guayaquil, via the Panama Canal, with a cargo of 49,231 sacks of CACAO destined to French ports.—According to statistics published by El Comercio, a daily newspaper of Quito, the EXPORTS of the principal products of Ecuador during the five years from 1912 to 1916, inclusive, were as follows: Cacao, 207,014,271 kilos, valued at 103,190,282 sures (sucro = \$0.4867); 35,335,594 kilos of unhulled vegetable ivory nuts, valued at 3,045,906 sures; and 52,445,189 kilos of hulled vegetable ivory nuts valued at 7,915,871 sures. During the period referred to the exports of cacao were greatest in 1914, during which year they amounted to 47,210,017 kilos, as compared with 42,666,525 kilos in 1916. The greatest exports of unhulled vegetable ivory nuts occurred in 1913, the aggregate amounting in that year to 16,630,879 kilos, as compared with 5,043,053 kilos in 1916. Of hulled vegetable ivory nuts the greatest exports were in 1916, the total of that year being 15,155,891 kilos, as compared with 7,173,279 kilos in 1915.—The National Congress has appropriated 90,000 sures for the reconstruction in the city of Guayaquil of the GOVERNMENT PALACE which was destroyed a few months ago by fire.—The BUDGET OF PUBLIC INSTRUCTION for 1918 provides 480,000 sures for higher education, 280,000 for secondary education, and 1,400,000 for primary instruction.—The President has been authorized by Congress to have coined abroad 200,000 sures in NICKEL COINS of 5 and 10 centavos denominations. These coins will be put into circulation by the treasury department.—A law of October 16, 1917, authorizes the chief executive to take such measures as may be necessary to fix an equitable commercial RATE OF EXCHANGE for the pound sterling in New York when used in connection with Ecuadorean trade values repre-

senting either money or products. The President has established for this purpose a consulting board at Guayaquil, the chairman of which is the governor of the State of Guayas, assisted by members representing the boards of trade of Quito and Guayaquil, the Association of Agriculturists, and the banking interests of the Republic.— Among the important LAWS passed at the last session of Congress is one providing for the building of a railway from San Juan station to the city of Guaranda; another appropriating 36,000 sucre annually to be expended under the direction of the board of health in combating hookworm; a law providing for sewerage, supplying with potable water and electric light and power the city of Ambato, and a law providing for the construction of a new military hospital.— The Ecuadorean Congress has enacted a law providing for the construction of a PUBLIC HIGHWAY from the city of Guayaquil, via Pascuales on the Daule River, through the coastal lowlands to the interior of the Republic. The municipality of Guayaquil is in charge of construction work and proposes to build the road either administratively or by contract. The highway when completed will be suited for automobile traffic.—In November last the President of the Republic agreed to a proposal to increase the gradient of the Sibambe-Cuenca RAILWAY, effecting in this manner an estimated saving of some 500,000 sucre in construction work. About 12 kilometers of track between Sibambe and Chunchi have been laid. It is expected that this road and the Esmeralda Railway, together with their extensions, will unite at some time in the future and form the basis of an inter-Andine system of railways in Ecuador.



The Pedrera property, situated in the immediate vicinity of the city of Guatemala and but a short distance from the Puerto Barrios Railway, contains a large deposit of material which, after an examination by American, English, and Italian experts, has been pronounced most suitable for the manufacture of a high grade of PORTLAND CEMENT. The cement company, a corporation with a capital of \$250,000 American gold, and which may be increased to \$5,000,000, is now manufacturing cement out of the material and on the property referred to. The new industry is receiving the moral support of the Guatemalan Government, which, under the able administration of President Estrada Cabrera, has done so much to foster the development of new industries in the Republic. The company has installed at its plant machinery sufficient to produce 40,000 barrels of cement annually, or enough to supply the needs of the country at the present time. Crude petroleum is used as a fuel and about 200 men are

employed daily. A warehouse with a capacity for storing 5,000 barrels of cement has been built alongside the railway, and the company has a locomotive and special cars which insures rapid communication between the Northern Railway and the factory. Plans are under consideration for increasing the capacity of the factory so as to enable it to supply not only the domestic needs of the country but to leave also a large surplus for export to Central America and other near-by countries.—On November 21, 1917, at a full cabinet meeting, a decree was promulgated by the council of ministers providing that a MARBLE TABLET be placed on the house in Quezaltenango in which President Manuel Estrada Cabrera was born, said tablet to contain an inscription giving the date of his birth, namely, November 21, 1857, and the dates of executive decrees Nos. 573 and 604, the former ordering the reestablishment of public instruction throughout the nation, and the latter inaugurating the festival known as children's day. This action was taken by the council of ministers as a manifestation of the gratitude, respect, and esteem in which the present chief magistrate is held, and in order that future generations may better appreciate the deeds and aims of the President, who has been repeatedly chosen by the popular vote of his countrymen to rule over the destinies of the Republic. A copy of the decree of the council was delivered to President Manuel Estrada Cabrera on the date referred to, and the contents of same were telegraphed to the municipal authorities of Quezaltenango and to those of the principal cities of the Republic.—Dr. A. G. Serrano, a Guatemalan fiber expert, states in an article published in the daily press that of the HENEQUEN samples on exhibition at a recent agricultural fair held in the national capital those from Charcas are equal to the spineless henequen of Chiapas, which is a fiber of superior quality in great demand in the North American markets. Dr. Serrano recommends that this variety of henequen be cultivated in Guatemala and not that known locally as sapupa, which produces a weak and inferior fiber.—On September 15 last the MUTUAL COMMERCIAL AID SOCIETY with headquarters in the city of Guatemala, completed the seventeenth year of its existence, having grown from 65 members in 1900 to 802 members in 1917.—The President of the Republic has appointed Senén Rendueles y Menéndez CONSUL of Guatemala in Santiago de Cuba.



The EXPENSES OF THE NATIONAL ADMINISTRATION during October and November, 1917, were fixed by the executive power at 793,276 gourdes paper (paper gourde=about \$0.183), and

187,794 gourdes gold (gold gourde = \$0.25). Of these amounts the expenditures in October aggregated 406,919 gourdes paper and 94,650 gourdes gold, while those of November were 386,358 gourdes paper and 93,144 gourdes gold.—Under authority granted by the cabinet, the National Bank of the Republic of Haiti has just placed in CIRCULATION 2,000,000 gourdes in bills of the denomination of 1 gourde of the issue prescribed by the law of December 23, 1914. These bills are legal tender throughout the Republic and are accepted by the treasury department in payment of taxes. The national bank at Port au Prince will exchange these bills for United States currency at the rate of \$1 for each 5 gourdes.—In conformity with a law of October 24, 1896, concerning DIRECT TAXATION, and a law of August 3, 1900, regarding professions and new industries not included in the former law, the municipal council of Port au Prince has ordered all persons in the national capital who desire to engage in the exercise of a profession or industry of whatever nature to submit their requests in writing to the aforesaid municipal council, stating therein their nationality, locality, and number of industrial establishments, in order that said council may issue the proper licenses. Foreigners shall not engage in commercial occupations, except in the capacity of consignees, and then only in open or habilitated ports, and foreigners occupied in industrial pursuits shall pay double the taxes required of Haitian citizens who transact the same or a similar kind of business. In order to engage in the professions and industries prescribed in the law of direct taxation, payment of the license fixed by the State, plus a surcharge of 25 per cent for each establishment, shall be made. After foreigners have paid the tax they are required to send their requests for licenses to the treasury department, stating names, nationalities, domiciles, kinds of business, industry, or profession in which they are engaged, as well as the number and locations of their establishments, making these petitions during the month of October of each year thereafter under penalty of having to pay a fine equivalent to five times the total taxes to which they may be subject.—During the latter part of November, 1917, a meeting of newspaper men was held in the office of Le Matin at Port au Prince for the purpose of adopting the necessary resolutions and the appointment of a committee to raise funds by public subscription to be expended in the erection of a MONUMENT commemorative of the railway catastrophe of November 4 last on the Port au Prince to Leoganes railroad. It was decided that the monument should consist of a crucifix placed on a large marble pedestal, with the names of the victims and details of the disaster inscribed on same in bas-relief.—The sanitary department of Port au Prince established on November 19 last a special automobile service for the COLLECTION OF REFUSE.—A recent executive decree authorizes the organization and approves the by-

laws of the HAITIAN NAVIGATION CO., a corporation organized in and with headquarters at St. Marc. The company proposes to do a coastwise business in the transportation of passengers, freight, and mail, and extend its operations to the waters of the countries in the immediate vicinity. The company is incorporated for 50 years and has a capital of \$50,000.—According to press reports the new CENSUS of Le Cap shows that it has a population of 18,900.—A LEAGUE OF AGRICULTURISTS has just been organized at Le Cap with the object of aiding in the agricultural development of that rich section of the Republic, and the establishment of an agricultural experimental station in that vicinity.

A decorative horizontal banner with a floral and scrollwork border. The word "HONDURAS" is centered in a bold, serif font within the banner.

The building in the near future of an AUTOMOBILE ROAD between Tegucigalpa and Danli is being agitated in the Honduran press. The plans which have been prepared show that the main difficulty which would be encountered in constructing such a highway would be in traversing the mountainous section of the survey which covers a distance of from 25 to 30 kilometers. The building of such a road would place in easy and rapid communication the national capital with one of the richest sections of the Republic and open to intensive settlement and development a territory capable of supporting a large population. The Department of Paraiso, in which the town of Danli is located, has an area of 15,000 square miles and a population estimated at 40,000. The Jamastran Valley, through which this road is to pass, is exceedingly fertile, contains an abundance of precious woods, running streams, excellent grazing lands, and a greatly diversified fauna and flora. This part of Honduras has been chiefly known heretofore as a mining country, but as a matter of fact it is also one of the richest agricultural and stock-raising zones of the Republic. Coffee, sugar cane, tobacco, maize, and bananas flourish in this Department, and the tobacco of Danli has an international reputation. The district contains a number of mountain peaks, interspersed by fertile valleys, and watered by numerous streams. The climate is healthful, the days warm and the nights cool. In the northern part of the Department stock raising is successfully carried on. Communication at present with the rest of the Republic is by means of cart roads and trails. One of these runs from Danli, via Yuscaran, to Tegucigalpa, crosses the Grande River near Potrerillos over a four-arched span bridge, the main arch of which has a length of 25 meters. This bridge is 110 meters long and 7 meters wide, is a fine example of highway bridge construction in Honduras, and would be utilized in building the

proposed auto road, which, according to plans now under consideration, is to be extended at some future time to the Atlantic and Pacific coasts.—The municipal authorities of San Pedro Sula recently had CEMENT SEWERS constructed in a number of the streets of the city, improved the public slaughterhouse, painted the municipal building and the tuberculosis hospital, and purchased lands adjoining the river from which the water supply of the city is taken in order to prevent the contamination of the potable water used by the municipality.—During the fiscal year 1916-17 the EXPORTS OF SKINS of wild animals from the Department of Yoro aggregated about 1,900 pounds. Most of these were deerskins, gathered, approximately, from 3,800 deer, the carcasses of which were used locally in the form of venison.—The municipality of Comayaguela held a stock and industrial FAIR in that city in November, 1917. The live-stock exhibits consisted of cattle, horses, mules, asses, sheep, hogs, and fowls, and the industrial exhibits of wrought marble, tiling, bricks, jars, musical instruments, printing and engraving, paintings, sculpture, etc. Diplomas and medals were awarded the displays on exhibition adjudged to be the best.—According to *El Nuevo Tiempo* (the New Time), a daily newspaper of Tegucigalpa, decree No. 50, effective February 28, 1902, dividing the NATIONAL LANDS of the district of Tela into agricultural lots of 25, 50, and 100 hectares each in order to induce colonists to settle upon and cultivate same, has been extended so as to include all of the national lands of the northern coast within 20 kilometers of the sea or of lakes and lagoons communicating directly with the sea.



The Fifth Mexican National MEDICAL CONGRESS will meet in the city of Vera Cruz from January 9 to 16, inclusive, 1918. The program covers papers and discussions on 24 principal subjects. The general secretary of the congress is Dr. R. E. Cicero.—Preliminary steps have been taken looking to the establishment in the city of Mexico of a sole BANK of issue to be known as the Bank of the Mexican Republic. According to press reports this institution proposes to begin operations on April 1, 1918. The National Chamber of Commerce in Mexico City intends to establish a commercial bank in the national capital with a capital of 2,000,000 pesos Mexican gold.—During the last 12 months the government of the State of Yucatan has expended the equivalent of about \$276,000 American gold in promoting EDUCATION.—Export DUTIES on the following products have been established in the equivalent of American

gold: Chicle gum, 5½ cents per pound; guayule rubber, 1.38 cents per pound; fresh hides, 6.44 cents per pound; dry hides, 9.43 cents per pound; goatskins, 20½ cents per pound, and deerskins, 14.5 cents per pound.—The department of agriculture has secured large supplies of a new species of hard WHEAT known as chiauixtle for seed distribution. This wheat is large-grained and ripens early, and is especially adapted for cultivation in the semiarid regions of the high table-lands of the Republic.—The cultivation of GUAYULE, or the Mexican rubber plant, has been undertaken in Lower California in districts where the soil and climate are adapted to the growth of that plant. An agricultural school has also been established in Lower California, and it proposes to give special attention to the growth of staple articles adapted to the conditions and rainfall of that Territory.—The President of the Republic has introduced into the House of Representatives of the Mexican Congress a bill empowering the executive, while abnormal conditions due to the world war last, to establish rules and TARIFF RATES of a differential nature for the various nations with which Mexico has international commerce, for the purpose of favoring trade with such nations as may not place restrictions of any kind on their commerce with Mexico.—The construction of a new RAILROAD is planned to connect the Imperial Valley, which extends from California into Lower California, with the port of San Diego. The road is to be built by American capitalists, and about 45 miles of the line will be in Mexican territory.—Consuls and consular agents of Mexico throughout the world have been instructed to secure suitable accommodations for PERMANENT EXHIBITS of natural and manufactured products of the Republic with the object of stimulating trade. It is estimated that 85 per cent of the manufactured goods imported into Mexico are produced from raw material exported from that country.—Adolfo de la Huerta has been appointed CONSUL GENERAL of Mexico in New York. Mr. de la Huerta, while acting governor of the State of Sonora, introduced many valuable reforms in the educational system and labor laws of that State.—The production of PETROLEUM in Mexico during the first half of 1917 amounted to 5,596,027 barrels, as compared with 19, 286,520 barrels during the same period of 1916.—The value of the contents of the NATIONAL MUSEUM in the City of Mexico is estimated at \$4,000,-000 United States gold.—The first AGRICULTURAL CONGRESS of Vera Cruz met in the city of Vera Cruz on December 1, 1917.—A national convention of RAILWAY EMPLOYEES recently met in Mexico City, and discussed and settled questions of pay, hours of labor, etc., in an amicable manner.—The waters of the CULIACAN RIVER, State of Sinaloa, have been declared the property of the National Government for the use of the public, in accordance with the provisions of the new constitution.—On November 13 last the

first convention of railway TELEGRAPH OPERATORS and dispatchers met in the city of Mexico. About 100 delegates were present.—On November 17, 1917, the first industrial congress met in the national capital. Fifty-eight delegates were present.



NICARAGUA

The FIRE which occurred in the business section of Bluefields on November 10 last is estimated to have caused a loss of \$150,000. Among the buildings destroyed were the Tropical Hotel, a store and warehouse owned by former President Diaz, and an American newspaper office. As soon as the ruins of this fire were cool enough to be handled a large force of laborers was set to work cleaning them up and preparing sites for new buildings. The foundations of the new store of Belanger's (Inc.) have already been started, and it is reported that work on other buildings is soon to commence. The fire was the first to occur in that section of the city for over 15 years.—The CUSTOMS RECEIPTS of Nicaragua during the first half of 1917 amounted to \$589,950, as compared with \$502,919 during the same period of 1916, or an increase during the first six months of 1917 of \$87,031.—The secretary of the treasury of the Government of Nicaragua has introduced into the House of Deputies of the Nicaraguan Congress a reciprocal bill authorizing the President of the Republic to suspend or abolish the EXPORT DUTY ON CATTLE consigned to the Republic of Costa Rica, provided the latter country permits the free importation of Nicaraguan cattle into Costa Rica.—The new WIRELESS STATION, which was installed in September last at Campo de Marte in the national capital, has a tower approximately 300 feet high and a radius of communication of 800 miles.—According to press reports the department of fomento (promotion) of the Government of Nicaragua is collecting detailed data for use in making a modern MAP of the Republic.—The Herald of Managua states that Dr. Ramón Solórzano has been appointed chargé d'affaires of the Government of Nicaragua near the Government of Mexico.—A FOUNDRY for the manufacture of bells has been established in Granada, capital of the Province of the same name, on the northwestern shore of Lake Nicaragua, about 20 miles from Managua, and a flourishing industrial center of some 18,000 inhabitants.—A recent issue of the Bluefields American states that owing to the bad condition of the lighthouse tower the BLUFF LIGHTHOUSE suspended service on November 1, 1917. The gas light at the residence of the collector of customs on the hill will temporarily be used as a guide to mariners. The light is quite brilliant and has a greater range of visibility than the withdrawn light. The customs authorities propose to install on lighthouse

hill a modern, up-to-date light similar to those used at Cape Gracias a Dios, Corinto, and San Juan del Sur, which are considered the very best obtainable for this service.—The President has appointed Dr. Salvador Castrillo ASSISTANT SECRETARY of the Interior. The new secretary took charge of his office in November last.—Baron d'Avril, French minister to Central America, recently conferred with the public credit commission in Managua concerning the CLAIMS of citizens of France against Nicaragua. The final settlement was left to future conferences. The minister of Great Britain is also treating with the public credit commission as to the claims of British subjects against the Republic of Nicaragua.—A bill amending the ELECTORAL LAW was passed by Congress in November last. One of the clauses of the amended law allows the reelection of mayors.



PANAMA

The Government of Panama proposes to extend the CHIRIQUI RAILWAY from a point in the region of the Chiriqui Viejo River into the district of Concepcion, a distance of 24 miles. A commission of engineers recently completed a survey of this extension and intends to begin work on same as soon as construction material can be received from the United States.—An executive decree of October 26, 1917, prohibits the reexportation of WHEAT FLOUR from the Republic under penalty of confiscation of the shipment and the payment of a fine of from 100 to 1,000 balboas (1 balboa = \$1).—A law has been promulgated giving to the executive branch of the Panaman Government extraordinary WAR POWERS and suspending constitutional guarantees as far as the rights of citizens of nations at war with Panama or the United States are concerned. On November 21, 1917, a decree was issued under this law requiring the registration on or before December 5, 1917, of all subjects of Germany, Austria-Hungary, Turkey, and Bulgaria permanently or temporarily residing in Panama, and requiring such persons to report to their respective registration offices every 10 days. The registrants referred to are forbidden from going more than 15 miles beyond their respective places of abode or from changing their residence without a written permit from the governor of the Province.—A recent executive decree reorganizes the system of auditing GOVERNMENT ACCOUNTS and places same under the supervision of the auditor general of the treasury whose duty is not only to audit the accounts but to buy all articles which the Government may need. In future purchases for the Panaman Government, except for minor incidentals, must be authorized by the auditor general.—In October last work was commenced on the CART ROAD planned to be built between Santiago de Veraguas and Aguadulce, a distance of about 28 miles.—A party of 14 practical TEXAS FARMERS have settled on the tract of land known as Llanos del Chiru, Province of Coclé, and have begun to cultivate about 10,000 acres of land. They are well supplied with tools, implements, and machinery, and propose to engage in the raising of staple food products.—Work has been commenced on the new COLD STORAGE PLANT at Mount Hope on the Atlantic side of the Canal Zone. It is intended to make this

plant one of the most modern and best equipped of its kind in the world.—The town of Penonome, Province of Coclé, is to have an electric LIGHT AND POWER PLANT installed and operated by the Government. The contract for the installation has been placed in the United States.—A shipment of 15,000 bags of COPPER, containing 50 pounds each, reached the city of Panama in November, 1917, from the copper mines at Corocoro, Bolivia, and has been temporarily stored awaiting reshipment to final destination.—The Commercial BANK of Washington, D. C., has been authorized by the Government to establish a branch in the national capital. The Panama Banking Co., a corporation organized under the laws of the State of West Virginia, and the International Banking Corporation of Connecticut, have also been given permission to continue doing business in the Republic.—The place on the Panama JOINT LAND COMMISSION made vacant a few months ago by Judge N. Cornett, has been filled by the appointment of George A. Connolly of San Francisco, Cal.—Francisco Jimenez, formerly chief cashier of the Treasury Department in the National Capital, has been appointed CONSUL of the Republic of Panama at San Francisco.—The Chorcha Petroleum Co. has been granted permission by the Government of Panama to prospect for OIL on 21 petroleum claims located about 12 miles from David in the vicinity of the route of the proposed extension of the railway to Chiriquí Viejo.



PARAGUAY

Joseph Bliss, general manager of the Central and of the International PRODUCTS COMPANIES, corporations with a capital of \$7,500,000, organized in the United States to do business in Paraguay and the Argentine Republic, has been placed in charge of the affairs of these companies in South America and will make his headquarters at Asuncion. The corporations referred to propose to build and operate packing and cold-storage plants in Asuncion and Pinasco, Paraguay, to invest in ranches, and engage in the raising of stock on a large scale, as well as to build steamboats and operate a line of vessels between Buenos Aires and Asuncion. The packing plant now under construction in the capital of Paraguay, and which will soon be completed, is estimated to cost \$1,000,000. Much of the material used in constructing this plant was imported from the United States, as was the machinery for the preparation of meats and the manufacture of extract of tannin, another important branch of industry which is to receive special attention from the companies in question. The lands acquired by these corporations in Paraguay are those which formerly belonged to the Farquhar Syndicate.—A Paraguayan AUTOMOBILE CLUB has been organized in Asuncion. One of the chief objects of this organization is to convince the people and the authorities of the country of the advisability of building automobile roads throughout the Republic in order to place the national capital in direct communication by means of these highways with the principal cities and industrial centers of the country.—The executive power has promulgated the GENERAL BUDGET law of the nation for the fiscal year July 1, 1917, to June 30, 1918, recently

authorized by the National Congress. The receipts are estimated at 911,113 gold pesos and 59,690,700 pesos currency, while the expenditures are given as 1,016,835 pesos, gold, and 65,486,657 pesos currency.—The President of the Republic has ordered the recruiting of the POLICE FORCE for service in the national capital and in the interior of the Republic from citizens of the country, 18 years of age and over, who have the necessary qualifications.—The proceeds of the sale of the Paraguayan steamer *Constitución*, amounting to 7,675,000 pesos, are, by a law of Congress, to be applied as follows: 2,500,000 pesos on account of the service of the public debt and overdue obligations; 1,500,000 in the construction of barracks; 375,000 in completing the wharves at Concepcion, Encarnacion, and Villette; 1,800,000 for charity and in distributing seeds to agriculturists; 300,000 as a site for a correctional school for women; 1,000,000 in the building and repair of roads, and 200,000 pesos in the purchase of school supplies and the construction of school buildings.—A well-equipped SANITARIUM, under the direction of Dr. Tomas Bello, has been established in Asuncion. The institution is provided with a dental department, a surgical operating room, and a chemical laboratory.—The corner stone of the edifice of the PARAGUAYAN INSTITUTE, an organization for the encouragement of culture, was laid in the national capital on October 12 last.—A law has been enacted authorizing the President of the Republic to appoint a commission to study and report upon the ECONOMIC SITUATION of the country and to make recommendations for the betterment of the same.



According to the national press there has just been found in the Metropolitan Church of the city of Lima, hidden under a pile of rubbish, an ARTISTIC BAPTISMAL FONT made in 1697. This relic is entirely of bronze and, including its pedestal, is 1½ meters high, 85 centimeters in diameter, and 25 centimeters deep. The font bears an inscription giving the date of its manufacture.—A national PEDAGOGIC CONGRESS, organized by a Peruvian association for the encouragement of education, will meet in Arequipa during the first half of February, 1918.—Statistics published by *El Comercio*, a daily newspaper of Lima, show that the EXPORTS of agricultural and mining products in 1916 were valued at £14,784,536, the former representing a value of £6,787,635, and the latter £7,996,901. Petroleum and mineral oil products, valued at £1,387,745, are included among the mineral products referred to.—According to a correspondent of the Lima press there was recently discovered in the district of Jauri, province of Canas, Department of Cuzco, a COPPER MINE of such richness that it would require the labor of 20,000 miners working continuously 80 years to remove the ore which it contains.—The department of fomento (promotion) has issued two important decrees concerning NEW RAILWAYS, one of which authorizes the survey of a line from Salaverry or Huacho to the mining districts of Salpo and Quiruvilca, and another approving the survey for the construction of a railway

between Tambo de Mora and Chincha Baja.—The President has promulgated a law enacted by Congress providing for the establishment of an agricultural EXPERIMENT STATION in the Department of Puno to be used in teaching practical agriculture, stock raising, and allied industries. Investigation of INFANTILE MORTALITY made by the Academy of Medicine of the national capital shows that the infantile mortality in Lima during the 8 years from 1909 to 1916, inclusive, averaged 27.1 per cent, as compared with 32.6 per cent during the 10 years from 1899 to 1908, and 34 per cent for the 10-year period from 1889 to 1898.—Congress recently enacted a law authorizing the President of the Republic to expend £4,000 in the erection of a monument to MANCO CAPAC, first of the Incas and founder of the Empire of Peru. The monument will be situated on Sacsahuaman Hill in Cuzco and will be unveiled in honor of the first centenary of national independence.—A report of the board of trade of Lima to the National Government gives the production of Peruvian RICE in 1915 as 37,250,770 kilos, as compared with 35,979,121 kilos in 1916, and 46,178,618 kilos (estimated) in 1917. The consumption of rice in the Republic in 1916 was 41,134,578 kilos. The imports of Chinese rice in 1916 aggregated 7,848,566 kilos. The production of dried vegetables, peas, beans, lentils, etc., in Peru in 1915 amounted to 19,714,077 kilos, as compared with 19,156,395 in 1916, and an estimated production in 1917 of 21,838,230 kilos. The consumption of these products in 1916 was 17,167,676 kilos.



The construction of the Mexican LEGATIÓN BUILDING in the city of San Salvador has been commenced. The ground upon which this edifice is to be erected was ceded to the Mexican Government by the Government of Salvador.—A contract has been signed providing for the erection of an Electric LIGHT AND POWER PLANT in the city of Metapan, a flourishing commercial and industrial center about 56 kilometers from the city of Santa Ana. Metapan is one of the oldest cities in the Republic, the town having been founded in 1683 by 80 families who at first engaged in agricultural pursuits. The lands of this vicinity are very fertile and are especially adapted to and are used at the present time for the growing of sugar cane. The Department of Santa Ana, in which Metapan is situated, produces large quantities of coffee, indigo, tobacco, and various kinds of grains, and has an important export and import trade. The Department is noted for its grazing lands, and stock raising is carried on extensively in the neighborhood of Metapan, as is also mining, this being one of the richest mining districts of the Republic. The city of Metapan now has a population of 17,000—A TUBERCULOSIS SANITARIUM will soon be opened to the public at Planos de Renderos near the national capital.—The National Commission of Physical Education of San Salvador recently established competitive GYMNASIUM CONTESTS for school children. The first of these, which was participated in by both boys and girls, was held in the city of San Salvador on November 5 last. Among the prizes

distributed was an artistic cup.—The faculty of the National University has published the bases of the SCIENTIFIC CONTEST ESSAYS, open to students of law and of the sciences of the National University. The subject chosen for the law department is entitled "Administrative organization of the Republic of Salvador," while that for students of the sciences is "Contribución al estudio de la micosis (mushroom poisoning) en El Salvador." The essays must be delivered to the University before September 15, 1918. The prizes in both cases are 500 pesos in cash, a diploma of honor, and a university scholarship for 1919.—The Official Bulletin of the Government of Salvador recently published a report covering the value, from an agricultural standpoint, of the ASHES ejected from the crater of the San Salvador Volcano, a chemical analysis of which shows them to be beneficial to plant life.—According to DEMOGRAPHIC STATISTICS for 1916 the number of births in the Republic during that year was 46,568, as compared with 51,058 in 1915, and 51,859 in 1914. The deaths in 1916 numbered 41,750; in 1915, 37,447, and in 1914, 25,413.—The area of Salvador cultivated to CORN in 1916 aggregated 126,700 hectares, as compared with 89,000 hectares in 1915.—A reader entitled "Lector Rural" (Rural Reader) for use as a TEXTBOOK in schools, the author of which is J. Antonio Cañas, is soon to be printed by the Government for use in the schools of the country.—The Salvador Drilling Co. has encountered a number of ARTESIAN WELLS while boring at different places in the Republic. The one at Rosales Hospital near the national capital, drilled at the beginning of the present year, continues to yield 7,000 liters of water per minute.



URUGUAY

A law recently enacted by Congress, and duly promulgated by the President of the Republic, provides that the BUDGET of 1916-17 shall be effective during the year 1917-18. The abnormal condition of the country, due to the European war, has made difficult, if not impossible, the preparation of reliable estimates of the revenues for a twelve-month period, so that it became necessary to extend the prior budget for another year.—The draft of the NEW CONSTITUTION of the Republic of Uruguay has been approved by the constituent convention, and was submitted to a popular plebiscite on November 25 last, the result of the election not being known in the office of the Monthly Bulletin at the time of going to press.—A bill has been introduced into Congress imposing a TAX of 4 per cent on the value of all kinds of wool, dried and salted oxhides, and dried sheepskins. The bill provides that the valuation of these articles shall be fixed by a committee consisting of the accountant general of customs, the director general of customs, the director of the office of commercial statistics, a representative of the Rural Association of Uruguay, and a delegate of the chamber of mercantile products, and that these valuations be approved by the President of the Republic. Dissatisfied interested parties may make claims against these valuations. Evading the tax, or attempts at so doing, shall be penalized by double the amount of the tax in

addition to such other penalties as may be prescribed by law. An additional clause was added by the Senate authorizing the executive to establish a special valuation for semiwashed wools coming from hide-depilating works, and, according to press reports, the amended bill has been passed by Congress.—The Government has introduced a bill into Congress authorizing the executive to PROHIBIT EXPORTS of provisions of first necessity whenever he deems expedient, transit merchandise in the city and port of Montevideo being excepted. The bill empowers the President to purchase foodstuffs of prime necessity, such as cereals, flour, vegetables, fruit, meat, fresh fish, eggs, milk, Paraguayan tea, sugar, oil, and other articles of general consumption, as well as coal, wood, petrol, agricultural machinery, and building materials, and to resell and distribute the same.—On November 11, 1917, the STOCK FAIR, held under the auspices of the Rural Association of Soriano in the city of Mercedes, was opened to the public.—The Government of Uruguay has established a CHAIR OF PORTUGUESE in the University of Montevideo.—The board of directors of the NORTH-EASTERN URUGUAY RAILWAY has recommended the payment in 1917 of a 7 per cent dividend on the preferred and common shares of that company.—A flower and FERN EXHIBIT was held at Lafone Memorial Hall in Montevideo on November 10, 1917.—The LIEBIG'S EXTRACT of Meat Company of Uruguay earned during the commercial year 1917 £330,738, as compared with £310,529 in 1916. This company controls in the Republic over 5,000,000 acres of land, own large herds of stock, and gives special attention to the breeding of cattle for beef purposes.—A bill introduced into Congress by the Government prescribes that national or foreign joint stock companies (*sociedades anónimas*) already organized or which may be formed in future, and which operate in Uruguay, as well as cooperative and mutual benefit societies, shall be subject to the control and INSPECTION LAWS applicable to national banks.—An agricultural and STOCK FAIR was held at Sarandi del Yi, Republic of Uruguay, from December 9 to 12, inclusive, 1917, under the auspices of the Agricultural Stock Society of Sarandi del Yi.—The President has introduced into Congress a bill exempting from import duties raw materials used in the manufacture of GLUE.—The new meat packing and cold STORAGE PLANT erected at Cerro, a suburb of Montevideo, commenced operations on a small scale and by way of trial in October last, and proposes to gradually increase the work to the full capacity of its installation. The plant is controlled by American interests.

VENEZUELA

The Provisional President of Venezuela has issued a decree establishing a first-class LEGATION in the Swiss Confederation, and authorizing the appointment of a special minister plenipotentiary to consider and negotiate questions concerning treaties and boundaries with the Republic of Colombia. Attached to the legation are to be a secretary, a legal adviser, and a chartographic engineer.—On

the occasion of the one hundred and ninth anniversary of the introduction of PRINTING into Venezuela, the issue of October 24, 1917, of *El Universal*, a daily newspaper of Caracas, contained an interesting chapter of an unedited work entitled "Historia y bibliografia de la imprenta en Venezuela" (History and biography of printing in Venezuela), by Manuel Segundo Sánchez, a Venezuelan historian. The first printing press to operate regularly in Venezuela was taken from Trinidad, British West Indies, to Caracas by Matthew Gallagher and James Lamb. This printing press, according to some historians, was the one which Francisco de Miranda, a celebrated Venezuelan patriot, placed on board one of the vessels used by him in his unfortunate invasion of 1806, and intended to be utilized in printing his proclamations to the inhabitants of the American Continent and for printing other documents connected with the invasion.—On October 28 last, saint's day of the liberator, Simon Bolívar, two MARBLE BUSTS were unveiled in Cumana, one of the liberator, and the other of Antonio José de Sucre, known in Venezuelan history as the "Gran Mariscal de Ayacucho," both of which were erected by orders of the governor of the State of Sucre.—The press of Caracas announces that the National City Bank of New York established a BRANCH BANK in the national capital, opening the same for business on November 10 last. The American Mercantile Bank of Caracas, a branch of the Mercantile Bank of the Americas of New York City, opened its doors for business on November 14, 1917.—United States capitalists have obtained a concession from the Venezuelan Government to build a RAILWAY from the port of Castilletes, situated on the bay of the same name, to the coal mines in the Goajira Peninsula. The interests referred to propose to dredge Castilletes port to a depth of 35 feet so as to admit ocean-going vessels of deep draft. The main line of this narrow-gauge railway will extend 93 miles, will have 35 miles of branches, and is to be equipped for transporting 10,000 tons of freight per day. The maximum freight rates are to be less than the minimum freight rates of the present Venezuelan lines. The coal mines referred to are said to produce large quantities of an excellent quality of coal. It is proposed to export much of this coal from the port of Castilletes to Colon, Panama, a distance of 595 miles, and to the West Indies. A recent executive decree places WHITE PAPER, not sized nor calendered, intended exclusively for the use of newspapers, scientific publications, and educational books, on the free list.—The MUNICIPAL REVENUES of the Federal District during the third quarter of 1917 amounted to 1,287,530 bolivars (one bolívar = \$0.193).—For the purpose of securing complete data concerning the CULTIVATION OF COTTON in Venezuela, the department of fomento recently requested the governors of the different States to forward to that department samples and seeds of the different kinds of cotton grown in the respective States with a statement of the prices now obtaining in the local markets. The department intends to take steps to encourage the cultivation of cotton throughout the Republic, and to recommend that varieties of cotton be grown most suitable to the soil conditions of the various States and which are in greatest demand in Venezuelan and foreign markets.



INDEX TO THE BULLETIN OF THE PAN AMERICAN UNION

Vol. XLV

Nos. 286-291

[The Index to Illustrations will be found on p. XXV.]

	Page.
Addresses Before the Southern Commercial Congress in New York*	640
Andes, The First Automobile Trip Over the	290
ARGENTINE REPUBLIC:	
Agricultural compensation fund	815
Agricultural schools	537
Automobile trip	675
Bank of the Argentine Nation	395
Barley, exhibits of	675
Board of Public Charities	676
Breweries, number of	111
Bronze plaque in honor of Dr. Oswaldo Cruz	254
Budget commission	675
Buenos Aires, anniversary of founding of	254
Butter for export	537
Caraguatá fiber	536
Celebration of discovery of America	676
Cereals, harvest of	814
Coal analysis	111
Cold-storage and meat-packing plant	253
Commerce, foreign	112, 254, 536
Congress of—	
Agriculture	394, 815
Industries Second	676
Notaries, First	394
Obstetrics	112
Students	536
Corn and wheat exports	676
Cotton cultivation	112
Cotton production	815
Seeds, distribution of	112
Exposition of industrial exhibits	675
Fibrous plants	112
First National Bank of Boston, branch of the	537
Gum, extraction of	394
Industrial Exposition	815
Jute-sack supply	111
Lake Ibera, survey of	395
Land for irrigation	395
Land grants, cancellation of, defective	112
Lands, sale of	254

* Bold type indicates special articles.

	Page.
Liquors, tax on.....	253
Mar del Plata, Famous Seaside Resort.....	172
Meats, free importation of fresh.....	253
Mining code, revision of.....	253
National stock fair.....	253
National University, report of the.....	536
Pan Americanism, The Growing Spirit of.....	421
Packing house, new.....	111
Paper, manufacture of.....	676
Pardo de Tavera, Félix, the sculptor.....	651
Periodicals, new.....	394
Petroleum production, estimated.....	111
Plaggio Canal dredging.....	531
Potatoes, cultivation of.....	531
Printing press.....	815
Protective Association.....	536
Pueyrredón, Dr. Julio.....	649
Quebracho logs, tax on.....	254
Railway traffic.....	395
Real property, sales of.....	536
Realty transfers.....	112
Rural Argentine Society, new president:.....	676
Sanitary works	815
Scientific and technical institutions, committee of.....	675
Seed wheat, distribution of.....	253
Single-tax league.....	253
Steamship line, new.....	531
Stock exchange.....	395
Stock fair.....	536
Sugar, free importation of.....	395
Sugar production.....	112, 814
Telegraph lines.....	815
Tuberculosis league.....	112
Uruguayan codes, gift of.....	676
Wheat exhibit.....	394
Wheat-flour production.....	253
Wine casks and hogsheads.....	531
Wireless telegraph stations.....	675
Wood production.....	531
Automobile Trip Over the Andes, the First.....	299
Baracoa, the Town of, and the Eastern Part of Cuba.....	621
Barrett, Mr. John, Director General of the Pan American Union, Address by, before the Southern Commercial Congress in New York.....	642
Bassett Moore, Dr. John, Address by, on the Work of the Pan American Financial Conference.....	165
BOLIVIA:	
Andean geology.....	538
Antiquities, preservation of.....	113
Automobile service.....	395, 537, 816
Aviation school	256, 538
Bolivia's Railways—Progress and Prospects.....	478
Bolivians in allied armies.....	538

BOLIVIA—Continued.

	Page.
Cabinet—	305
New	316
Reorganization	113
Camp Fire Girls	810
Chocolate manufacture	255
Congress of students	255
Consul general in New York, annual report of the	396
Consular appointment	113
Correctional school	250
Dictionary of Indian languages	816
Dining-car service	677
Diplomatic appointment	677
Discourse of Dr. Montes	539
Exports, increase of	528
Exposition of paintings	250
Graphophone records of Bolivian music	266
La Paz Commercial Guide	113
Library, establishment of	250
Museum of mineralogy, samples given to the	255
Normal Institute	396
Postage stamps	256
Potosí mining region	816
President of the Republic, inauguration of the	395
Railways	114, 256, 677, 815, 816
Rolling stock, new	676
Rubber report	114
Santiago de Huata, port of	255
Silk exhibit in New York	113
Spring water, utilization of	677
Travels of Argentine boy	816
Tupiza, first automobile to reach	396
University of Tarija, new rector	677
Zoological specimens for collection	538
Bolivia's Railways—Progress and Prospects	478
Book Notes:	
An essay on a Congress of Nations	250
An International Court of Justice	250
Along the Pacific by Land and Sea	672
American Indian Corn	810
American Type of Isthmian Canal, The	240
Anuario Bibliográfico de Venezuela, 1915	812
Annual Report of the Director to the Board of Trustees for the Year 1916	812
Argentine Civil Code, The	811
Argentine Standard Directory and Buyers' Guide, The	249
British Exploits in South America	240
Cane Sugar Industry, The	672
Cervantes de Saavedra, Miguel de	812
Columbus, Christopher, in Poetry, History, and Art	249
Commercial Organization of the United States	811
Cuba, "The Pearl of the Antilles"	811
Customs Tariff of Chile	811
Danish West Indies: Under Company Rule	672

Book Notes—Continued.

	Page.
Diaz.....	240
Diplomatic Days.....	811
Diplomatic Documents Relating to the Outbreak of the European War.....	250
Early History of Cuba, 1492-1586.....	811
El Supremo: A Romance of the Great Dictator of Paraguay.....	672
Elementary Spanish-American Reader.....	240
Elementary Spanish Prose Book.....	811
Elementary Spanish Reader.....	240
Exporters' Encyclopedia.....	811
Foreign Tariff Notes, No. 23.....	672
Freedom of the Seas, The.....	250
Grotius, Hugo.....	811
Hague Conventions and Declarations of 1899 and 1907, The.....	240
Hague Court Reports, The.....	250
Instructions to the American Delegates to The Hague Peace Conference.....	240
Jews of Latin America.....	811
Latin American Stories.....	240
Laws (Abstracts) and Board Rulings.....	810
Markets for Agricultural Implements and Machinery in Brazil, Chile, and Peru.....	672
Markets for Construction Material and Machinery in Cuba and Venezuela.....	672
Memoranda on the Mexican Situation.....	811
Methods of Computing Values in Foreign Trade Statistics.....	672
Mexico Coming into Light.....	240
Mexico in Transition.....	240
Mexican Problem, The.....	672
Moseteno Vocabulary and Treatises.....	811
Official Report of the Fourth National Foreign Trade Convention.....	672
Paper, Paper Products, and Printing Machinery in Peru, Bolivia, and Ecuador.....	812
Pimelodella and Typhlobagrus.....	812
Plano de Asuncion.....	672
Recommendations on International Law and Official Commentary Thereon.....	250
Resolutions of the Institute of International Law.....	250
South American Markets for Dried Fruits.....	810
South American Markets for Fresh Fruits.....	672
South American Opinions on the War.....	811
Spanish-American Life.....	240
Spanish and French Rivalry in the Gulf Region of the United States, 1678-1702.....	240
Spanish Commercial Practice.....	240
Spanish Reader for Beginners, A.....	812
The American Fertilizer Hand Book, 1917.....	672
The Beginnings of Washington.....	250
The Book of the West Indies.....	811
The Brazilians and Their Country.....	811
The Effects of Wars and Revolutions on Government Securities, External and Internal.....	672
The Mineral Industry.....	811
The Quest of El Dorado.....	811
The Statesman's Year-Book.....	810

Book Notes—Continued.

The Status of the Internal Court of Justice.....	250
Thirty Years with the Mexicans: In Peace and Revolution.....	810
Trade Acceptances.....	812
West Indies as an Export Field, The.....	811
BRAZIL:	
Academic Congress in Pernambuco.....	818
Academy of Letters.....	398
Agricultural maps.....	539
Aid for Belgians.....	678
American Interparliamentary Union.....	678
Bank of Issue.....	258
Beans, exports of.....	258
Beef prices, control of.....	678
Brazil: To-day and To-morrow	43
Brazilian Aero Club.....	818
Bread, standard type of.....	539
Calcium carbide production.....	115
Castor bean.....	258
Castor-oil plant.....	397
Chemical works.....	257
Cement factory, proposed.....	258
Cereals, exportation prohibited.....	678
Coal exhibits.....	397
Coffee shipments.....	817
Commerce, foreign.....	257
Congress of Americanists, Twentieth.....	679
Cotton cultivation.....	679
Cruz, Oswaldo, the great physician and sanitary expert.....	504
Debt, foreign.....	678
Diplomatic appointments.....	258
Eight-hour working-day.....	540
" <i>Ephemerides Brasileiras</i> ," publication of.....	678
Ethnographic Dictionary.....	397
Exhibits of Brazilian products.....	257
Frozen meat exports.....	678
Holland Bank, branches.....	257
Indian corn crops.....	114
International Health Commission of the Rockefeller Foundation.....	540
Japanese bank.....	818
Live-stock census.....	257
Maize, production of.....	818
Manganese—	
Exports of.....	817
Mines.....	257
Ore	678
Maté, preparation of.....	398
Meats, exports of congealed.....	817
Mineral discoveries.....	116
National corn exposition.....	114
Pan Americanism, The Growing Spirit of	421
Paranágra, improvement of the port of.....	115
Petroleum zones.....	115
Plant "aninka," the.....	817

	Page.
BRAZIL—Continued.	
Railway construction	114
Railway traction companies, responsibility of	397
Rio de Janeiro, population of	817
Road congress	115
Rubber arrivals	639
Sanitariums, establishment of	115
Shipment from São Paulo to Europe	539
Spanish, the study of	818
Statue to Dr. Oswaldo Cruz	397
Steamship line	817
Stock fair	116
Tobacco production	115
Treasury notes issued	115
Tuberculosis, treatment of	258
United States fleet, visit of the	398
Vegetable oils	818
Wheat, importation of	818
Wolframite deposits	115
Zebu beeves	115
Brazil: To-day and To-morrow	43
Bread Wanted, a New	188
Calderon, Sr. D. Ignacio, Minister of Bolivia to the United States, Address by, in the Southern Commercial Congress in New York	640
CHILE:	
Aqueducts, construction of	680
Avicultural fair	542
Bank, new	540
Bank notes, issue	116
Business conditions	259
Cellulose industry, study of the	117
Coal mines, work on	117
Commerce, foreign	117, 259
Commercial institute building	541
Commission to study railway transportation	542
Copper—	
Exports of	541
Mines	390
Statistics	116
Congresses, important	542, 680
Electric Tramway Co.	679
Electrical invention	541
Enamel company	542
Exportations, limit of	116
Fruits, exhibition of	820
House for students	679
Iron ores, smelting of	541
Iron products, manufacture of	117
Irrigation canal	116
Legations, establishment of new	117, 680
Melado irrigation canal	679
Merchant marine subsidy	116
Message of the President of the Republic	258
Mineralogical Museum	680

CHILE—Continued.	Page.
Music rolls manufacture	542
National Library, number of readers in the	259
National merchant marine, subsidies to the	541
Oatmeal production	398
Olive tree cultivation	680
Paper factory	399
Petroleum, discovery of	398
Population of the Republic	116
President of the Republic, message	258
Punta Arenas, wharf at	259
Railways	259, 398, 399, 541, 810
Real property, assessed value of	250
Red Cross work	399
Santiago—	
Agricultural Institute in	820
Hotel, new	680
Railway passenger station in	541
Stock fair in	819
School of midwives	820
Schools, building of	541
Schools, Latin in the	541
Steamship service	117
Sugar, consumption of	818
Vegetable product, industrial use of	680
Vessels in merchant shipping, Government	399
Wine, production of	542
Céspedes, Dr. Carlos Manuel, Minister of Cuba to the United States, Luncheon in his Honor.	644
 COLOMBIA:	
Academy of Diplomatic Studies	261
Administrative Reform in Colombia, new book about	118
Agricultural colony, new	118
Agricultural commission from Chile	118
Agricultural Society of	681
Alcohol, traffic in	400
American Sporting Club	117
Atrato River navigation	543
Automobile freight service	543
Bank of Caldas	261
Bank of Tolima	543
Bathing beaches, public	821
Bogota, fire department, equipment of	261
Bonds of internal debt	260
Candy factory in Medellin	821
Cartagena—	
City improvement	681
Municipal antituberculosis dispensary	681
Chemical products	681
Census of the Republic	821
Colombia Language Academy, building for the	200
Commerce, foreign, in 1915	400
Competitive prizes, annual	821
Congress of Boards of Trade, First	543

	Page.
COLOMBIA—Continued.	
Convention with Venezuela	117
Conversion fund	543
Corset factory in Medellin	821
Department of Valle, population of	681
Dugand Bank	230
Exposition, industrial	401
Financial business departments	543
French Board of Trade, new	118
Grazing-land data	118
Hot springs, discovery of	681
Jute sacks	261
Lighthouses, new	821
Medellin, loan for telephone installation at	681
Medical inspection service	400
Meteorological service	118
Military territorial division	543
Monuments, proposed	400
National capitol, expenditures	820
National Industrial and Artistic Exposition	261
National Medical Congress, Third	681
National Pedagogic Congress, First	260
National revenues	542, 682
Packing-house industries	542, 821
Pharmaceutical and Dental Union	681
Pedagogic Academy	542
Pedagogic Convention, Departmental	401
Pigeon target club	543
Postal revenues	260
Presidential candidate	400
Property census	401
Public Improvement Congress, First	820
Public Improvement Society	260
Radiography, teacher of	118
Railways	400, 542, 682
Railway commission	682
Railway hotel in Juntas de Apulo	118
Rice imports	682
Rights of foreigners	543
Sabana railway, new station of	260
Salt mines	820
Sanitarium in Cali	821
Santa Marta railway	820
Statue of Miguel Antonio Caro	820
Statehouse, new	400
Steamboat, new	821
Steamer service with New York	681
Stock census	681
Straw hats, manufacture of	117
Students' Day	400
Telephone service	542
Tunja Board of Trade	260
Vaccine laboratory in the Department of Antioquia	117
Wireless telegraph station	260

	Page.
Commerce of the United States with Latin America, Increase of	393
Consular Reports, Subject Matter of	109, 251, 391, 528, 673, 812
COSTA RICA:	
Asylum for mendicants	262
Bank notes	262
Beef cattle, importation of	822
Boy Scouts	402
Budget of the Government	822
Cacao cultivation	119
Castor beans cultivation	544
Cattle industry	544
Chinese Board of Trade	822
Coal mining	822
Coconut-oil extracting machines	682
Coffee shipments	262, 822
Constitution of the Republic, new	119, 262
Copper coins	823
Food resources	682
Foreigners, order about	544
Guadalupe Savings Society	822
Hat weaving	682
Industrial agricultural exposition	682
Insurance law	822
International Information Bureau	119
Jute sacks manufacture	544
Military establishment	402
Milk, sale of	402
National Exposition of Arts and Crafts	261
National Exposition of Decorative and Industrial Arts	682
National Museum	544
National Museum, department of exhibits	822
Panela exports	119
Paper manufacture	544, 682
Penitentiary, establishment of a	543
President of the Republic, election of	261
Products, marketing of	401
Red Cross, proposed branch of the	401
Rice, cultivation of	262, 401
School of correction	544
Silver coins, issue of	262
Sight bonds	262
Steam railway	544
Steamer tariff rates, increase of	410
Sugar-cane growers	262
Talamanca oil belt	262
Through Costa Rica, the Magnificent, on a Motor Car	579
Tobacco cultivation	119
Wheat—	
Bounty for	543
Cultivation	262
CUBA:	
Airplanes, construction of	824
Army, size of the	545

CUBA—Continued.	Page.
Art Exposition, Spanish.....	120
Asylum for beggars.....	545
Aviators.....	403
Bat guano caves, exploitation of.....	546
Black fly, fighting the.....	823
Bread-making machinery.....	546
Budget for 1917–18.....	121
Bureau of Dactyloscopic Identification.....	203
Cabinet appointment.....	263, 403
Chief Justice of the Supreme Court, new.....	121
Chinese immigration.....	684
Commercial Bank of Cuba.....	824
Crematory.....	684
Cuban-American Sugar Co., earnings.....	824
Cuban Red Cross activities.....	684
Cuban Steamship Co.....	824
Customs receipts.....	545
Diplomatic appointment.....	203
Esperanto language, teaching of.....	403
Free markets.....	824
Freight and passenger traffic with the United States, increase of.....	403
Fruit on trees, sales of.....	403
Fruit-packing plant.....	546
Gold mine.....	684
Habana: The Greatest Club City in the World.....	24
Habana—	
Aqueduct for.....	402
Piers in the harbor.....	546
Henequen, cultivation of.....	120
Historical geography.....	120
Honey production.....	684
Immigration bill.....	203
International Medical Congress, Fourth Cuban.....	264
Isle of Pines—	
Fruits and vegetables in.....	824
Motor cars on.....	402
Jail in Marianao.....	545
Legations, appropriations for.....	203
Leprosy, study of.....	121
Manganese mines.....	823
Marshmallow plant.....	546
Maternity hospitals.....	684
Medical scholarship.....	403
Monument to—	
Gen. Máximo Gómez.....	824
José Antonio González Lanuza.....	264
Oil, drilling for.....	403
Postal rates.....	683
Price law, new.....	823
Schools, new.....	204
Sewers in Marianao, improvements of.....	120
Ship sailings.....	121

	Page.
CUBA—Continued.	
Streets, improvements in Camaguey-----	121
Sugar—	
Exportation of -----	545
Price of -----	823
Sugar crop, marketing of -----	684
The Town of Baracoa and the Eastern Part of Cuba -----	627
Treasury bonds-----	545
Trees, plantation of-----	545
United States training camps, study of-----	403
Wage bill, minimum-----	204
War farms-----	683
Warehouses, construction of-----	121
Wireless stations-----	546, 684, 824
DOMINICAN REPUBLIC:	
Agricultural instructor-----	123
Apiculture, exploitation of-----	825
Aqueduct, construction of-----	265
Art exhibition-----	404
Automobile road, new-----	122
Cacao—	
Exportation of, to the United States-----	405
Production -----	404
Trees -----	685
Coal, use of Venezuelan-----	825
Consular officers, order concerning-----	546
Cotton cultivation-----	205
Custom and port laws-----	547
Demographic statistics-----	825
Distillers, bond required of-----	264
Dominican Claims Commission-----	204, 684
Eastern Part of the Dominican Republic -----	315
Fish industry-----	685
Freight traffic-----	122
High-school courses-----	685
Highway, new-----	122
Hydroelectric plant-----	686
Industrial Exploitation Co-----	885
Laborers, importation of-----	546, 824
Loan negotiations-----	122
Match factory-----	404
Nigua River bridge-----	547
Notarial documents-----	546
Paper factory-----	825
Passengers, order about-----	264
Passports -----	205
Postal convention with the United States-----	122, 404
Public works-----	404, 547
Puerto Plata—	
Harbor improvements-----	546
Vessels entering the port of-----	265
Rice, cultivation of-----	826
Road, construction of a-----	547

	Page.
DOMINICAN REPUBLIC—Continued.	
San Pedro de Macoris, warehouse in-----	825
Santo Domingo, electric light and power plant in-----	826
Stamp law-----	685
Students abroad-----	122
Universal Encyclopedia, writing of biographies for the-----	404
Wagon-road construction-----	395
Wheat-growing possibilities-----	121
Wireless station-----	404
Dominican Republic, The Eastern Part of the-----	315
Eastern Part of the Dominican Republic-----	315
ECUADOR:	
Ammunition factory planned-----	123
Bank, new-----	686
Banking law, new-----	548
Budget of public instruction-----	826
Cabinet appointment-----	266
Cacao, exportation of-----	548, 826
Commerce, foreign-----	687
Commercial rate of exchange-----	826
Congress of Workmen-----	123
Ecuador-Colombia boundary-----	406
Esmeraldas railway-----	266
Exchange fluctuations-----	123
Galapagos Archipelago-----	625, 548
Government palace at Guayaquil, appropriation for the construction of-----	826
Guayaquil-----	
Motor cars in-----	405
School census of-----	406
Hospital in-----	
Portovelo, new-----	267
Quito, new-----	123
Laws, important-----	827
Loan-----	
Message of the President of the Republic-----	547
Mixed Boundary Commission-----	123
Money-order treaty with the United States-----	124
Museum of Archeology-----	266
Petroleum deposits-----	123, 686
President of the Republic, message of the-----	54
Products, export of principal-----	826
Public highway-----	827
Railways-----	124, 548, 827
Realty company-----	266
Report of questions with Peru-----	406
Steamship company-----	686
Steamship service with the United States-----	405
Tax for railway construction-----	686
Telegraph service, plan of a free-----	124
Tobacco, tax on-----	405
Topography, new course of-----	124
Travels in Ecuador-----	719
Visit of a physician to the United States-----	405

	Page.
Ecuador, Travels in	719
Famous Seaside Resorts: Mar del Plata and Pocitos	172
GUATEMALA:	
Acreage under cultivation.....	407
Agricultural magazine, new.....	688
Automobile service.....	688
Carriage and wagon factories.....	268
Cereal growing, encouragement of.....	125
Chicle industry.....	267
Chinaware, factories for the manufacture of.....	548
Chiquimulilla Canal, dredging of the.....	549
Chocolate factory.....	688
Coffee production.....	937
Commerce, foreign.....	688
Commission to United States.....	688
Consular appointment.....	407, 688
Corn, purchase of.....	407
Cotton mills, enlargement of.....	125
Dentists, number of.....	268
Flour, new food.....	406
Henequen, cultivation of.....	828
International Board of Health.....	407
Joaquina Lying-in Institution.....	540
Loan authorized.....	267
Maize, importation of.....	548
Mica development.....	406
Municipal building, plan for a.....	125
Mutual Commercial Aid Society.....	828
National exposition.....	267, 548
Portland cement, manufacture of.....	827
President of the Republic—	
Decoration bestowed upon the.....	124
Marble tablet in honor of.....	828
Railway activities.....	407
Salt mine.....	548
Salt production.....	125
Schools, statistics of	124
Through the Marvelous Highlands of Guatemala	464
Xesuc Bridge, completion of.....	407
Guatemala, Through the Marvelous Highlands of	464
Habana: The Greatest Club City in the World	24
HAITI:	
Agricultural commission	550
Agricultural production	408
Agricultural society	126
American Club.....	549
Automobile road project.....	549
Bills of one gourde.....	829
Budget, national.....	126, 689, 828
Cabinet appointment.....	268, 408
Civil Code, new edition of the.....	126
Coffee exports	269
Commerce, foreign.....	550

	Page.
HAITI—Continued.	
Constitution, report on the new.....	126
Consular appointment.....	689
Credits, special.....	689
Cruiser sold.....	125
Customs laws, publication of.....	550
Diplomatic appointment.....	126
Diplomatic and consular service decrees.....	550
Electric light, installation of.....	550
Flag, respect to.....	209
Foreign exchange.....	126
Food exports.....	689
Guano deposits.....	689
Haitian American Sugar Co.....	408
Haitian Navigation Co.....	830
Haitian West India Co.....	126
Highways, repair of.....	689
Hospital improvements.....	408
League of Agriculturists.....	820
Maritime and commercial matters, jurisdiction of.....	550
Matches, importation of.....	549
Monument	829
Municipal receipts.....	268
National Bank of the Republic.....	268
Port au Prince—	
Collection of refuse in.....	820
Street-cleaning service.....	550
Products, exportation of	126
Professions, decree regarding new.....	689, 820
Railway receipts.....	268
Road, construction of.....	408
Rural schoolhouses.....	268
San Francisco de Sales Hospital.....	550
School building.....	550
School children, exhibit of work of.....	269
Steamship service with New York.....	269, 408
Telegraph lines.....	549
Telegraph poles.....	408
Trans-Ocean Trading Co.....	689
HONDURAS:	
Agricultural and commercial training.....	409
Agricultural plantation.....	690
American Red Cross, contribution to the.....	269
Ancient ruins.....	269
Arbor Day celebration.....	127
Automobile road.....	830
Bananas and cattle, exportation of.....	409
Board of health.....	551
Bridge, new	690
Cement sewers.....	831
Cigarette factory.....	400
Crops, inducement to plant.....	270
Customhouse at Calba, new.....	128
Department of Tegucigalpa, production of the.....	551

	Page.
HONDURAS—Continued.	
Factories, new—	127
Gaseous water, factory of—	551
Geography, new—	127
Henequen, cultivation of—	270
Highway construction—	690
Indigo, production of—	550
Insurance society—	127
Lands, irrigation of—	270
League of Students, organization of a—	127
Liquor tax—	127
Mineral deposits—	410
National lands, law about—	831
Nationalist Club—	690
Newspaper, new—	128
Packing houses—	690
School of Arts and Crafts—	690
Skins, exports of—	831
Soap factory—	269
Steamer service with Mexico—	127
Stock and industrial fair—	831
Theatrical performance—	270
Timber, cut of construction—	551
Tobacco cultivation—	690
Vegetable and animal oils, extraction of—	551
Vessel, construction of a small coasting—	409
Increase of Trade of United States with Latin America	393
Latin America, Increase of Trade with United States	393
Latin America, Platinum—with Special Reference to	606
Latin American Foreign Trade in 1916—General Survey	531
Luncheon in Honor of Cuban Minister	644
MEXICO:	
Agricultural Review—	271
Agronomic Society—	552
Ammunition plant proposed—	129
Automobiles, importation of—	271
Claims commission—	691
Coal fields at Honey—	128
Colonization, encouragement for—	128
Commercial Museum—	691
Commerce—	
Development of foreign—	410
With United States—	692
Congress of—	
Agriculture in Vera Cruz, First—	832
Commerce, First—	271
Industries, First—	551, 833
Medicine, The Fifth National—	552, 831
Workmen—	411, 691
Consul general in New York, new—	832
Corn belts—	691
Cottages for the poor, building of—	129
Debt, national—	691

	Page.
MEXICO—Continued.	
Electric railway	691
Electrolytic copper, manufacture of	552
Export duties	831
Farm implements, duties on	271
Fiber-producing plants	271
Gold bullion and silver exports	271
Government printing office, enlargement of the	128
Grand Canal	128
Guano deposits	692
Guayule, cultivation of	832
Henequen fields, laborers for	271
Hides and skins	411
Historical parchment	692
Industries, reopening of	129
Iron, exportation of	692
Lands, cultivation of Government	691
Loans, authorization of	271
Magnesite deposits	551
Maguey fiber	410
Maize, importation of	552
Metallurgical company's mines	271
Naval Academy	271
Oil zone	552
Packing houses	552
Parcel-post convention	692
Pearl-fishing industry	552
Pearl oysters, propagation of	129
Petroleum—	
Deposits	270, 832
Shafts	272
Tax on	411
Products—	
Exhibit of Mexican	272
Exhibit of natural and manufactured	832
Public lands available	129
Querétaro, old Mexico and new in	206
Quintana Roo, exploitation of products in	410
Railways	411, 552, 832
Return of Mexicans, encouragement for the	128
Sea baths, construction of	271
Sole bank of issue	551, 831
Tariff rates	832
Telegraph communication	691
Theater at Villa de Guadalupe	552
Vera Cruz—	
Bathing resort in	552
Harbor dredging	552
Wages, increase of	129
Wheat, new species of	832
Wireless telegraph station	552
Monroe Doctrine, Mr. Elihu Root on the	750
Montevideo, The City of Roses	435

NICARAGUA:

	Page.
Agricultural school	272
Beef, exportation of refrigerated	412
Bluefields, fire in the business section of	833
Bluff Lighthouse	833
Cattle	
Export duty on	833
Regulation for the importation of	120
Central American Court of Justice	272
Clearance law	411
Coconuts, transportation of	412
Copper property	273
Cotton production	553
Customs receipts	833
Debt of the State to foreign citizens	834
Education plan	411
Electoral law	834
Forestal tax law	602
Foundry, new	833
Gold	
Exports	120, 273
Production	412
Highway, new	120
Ice factory	603
Internal debt	130
Land law, new	273
Lumber exports	130
Mahogany logs	603
Map proposed	553
Medical association, new	130
Message of the President of the Republic	553
National School of Agriculture	412
Nicaragua, Land of Enchanted Vistas	701
Nicaraguan Development Co.	603
Oil concessions	272
Petroleum industry	553, 603
President of the Republic, message of the	553
Railway material, sale of	602
Scholarship to Miss Rosita Estrada	553
School of Agriculture	553
Timber, tax on the cutting and export of	553
Turtle products	602
Wines and liquor, duties on	272
Wines, importation of	412
Wireless station, new	130, 833
Nicaragua, Land of Enchanted Vistas	701
PANAMA:	
Acetylene-gas plant	603
Agricultural company	604
Agricultural experiment station	604
Antialcoholic campaign	274
Bank accounts in United States gold	604
Cable deferred rate service	273
Cart road, new	834

	Page.
PANAMA—Continued.	
Cattle, transportation of.....	414
Chicken farming.....	413
Chiriquí railway.....	834
Civil marriage law.....	603
Codes, adoption of new.....	131
Cold-storage plant	834
Colón, new buildings in.....	<u>274, 413</u>
Commercial Museum.....	412
Commerce, foreign.....	132
Companies, regulation of foreign.....	131
Copper imports.....	835
Crude oil as fuel.....	554
Dock service, regulation of.....	130
Fire zone	694
Government accounts	834
Highway construction.....	274
Internal-revenue stamp.....	694
Joint land commission.....	835
Land prices, advance in.....	413
Lands, cultivation of.....	834
Liquors, licenses for retailing.....	604
Oil, prospect for.....	835
Panama—	
Census of the city.....	273
Theater, new.....	274
Passenger service, monthly.....	554
Penonomé, electric light in.....	835
Petroleum exploitation.....	<u>132, 274, 413</u>
Pineapples in Toboga.....	274
Poultry, import of.....	693
Railway contract.....	131
Reform school.....	554
Roads, new asphalt.....	131
Seeds, distribution of.....	<u>413, 554</u>
Shriners' temple.....	132
Silver bullion, prohibition of exportation.....	554
Steamship service with Costa Rica.....	274
Vegetable-ivory buttons.....	554
War powers, extraordinary.....	834
Welfare of youths.....	274
Wheat flour, prohibition of reexportation of.....	834
Wines, manufacture of table.....	554
Pan America in the Magazines:	
Adams, Herbert, the sculptor.....	93
Andean region of Venezuela, the.....	76
Bartlett, Paul Wayland, the sculptor.....	<u>351</u>
Cerro de Pasco, the Anaconda of Peru.....	82
Colombian Andes, the.....	86
Construction of highways.....	186
Creative textile art and the American Museum.....	<u>346</u>
Cruz, Oswaldo, the great Brazilian physician and sanitary expert.....	504
Detroit as a manufacturing city.....	<u>383</u>

	Page.
Pan America in the Magazines—Continued.	
Exhibits of tapestries and carpets loaned by His Majesty the King of Spain.....	508
Making food from fodder.....	768
Mesa Verde National Park.....	230
Nature and man in eastern Pará, Brazil.....	330
New food manual.....	241
Old Mexico and new in Querétaro.....	206
Pardo de Tavera, Félix, the sculptor.....	651
Pearl Island of the Pacific, the.....	
Sliding off of the world's roof.....	659
Some facts relative to the solar system.....	374
South American Indian in his relation to geographic environment, the.....	759
Summer schools in the United States.....	337
Teaching gardening in elementary schools.....	215
Vierge, Daniel Urrabieta.....	223
Weinman, Adolph Alexander, the sculptor.....	774
Pan American Affairs, Prominent in:	
Carreño, Madame Teresa.....	64
Creighton, Mr. George Wishart.....	325
Cuestas, Dr. Juan L.....	322
Daireaux, Capitan Carlos G.....	69
Dittborn, Commander Julio.....	69
Ewing, Maj. Alfredo.....	69
Foster, Hon. John Watson.....	646
Goebel, Mr. Peter W.....	323
González Lanuza, Dr. José Antonio.....	323
Gutieras, Dr. Ramón.....	755
Harvey, Mr. Roland B.....	650
Hurtado, Sr. José Marcellino.....	322
Melvin, Dr. Alonzo D.....	758
Meza, Dr. Carlos A.....	649
Palma, Sr. Ricardo.....	326
Pando, Gen. José Manuel.....	63
Pueyrredón, Dr. Julio.....	649
Rodó, Sr. José Enrique.....	67
Salinas, Sr. Manuel.....	64
Soria Galvarro, Sr. Roberto.....	755
Stutesman, Mr. James Flynn.....	756
Wigmore, Prof. John H.....	328
Wittenmeyer, Lieut. Col. Edmund.....	70
Zalles, Sr. Jorge E.....	328
Pan American Financial Conference, The Work of the	165
Pan American Notes:	
Bolivia, President of the Republic, inauguration of the.....	380
Central America, project regarding the Union of.....	670
Cuba: Habana, International Bureau of Trade-Marks and Commercial Names, establishment of the.....	808
Mexico—	
American Chamber of Commerce of.....	524
Division of Archeology in the National Government.....	383
United States—	
Bulletin on training for foreign service.....	519

Pan American Notes—Continued.

	Page.
United States—Continued.	
Georgia School of Technology published a Spanish bulletin.....	528
National Foreign Trade Convention, proceedings of the Fourth.....	530
New York, Spanish teachers needed in the high schools.....	535
Pan American fellowship awarded to Miss Virginia Pereira Alvarez	524
Southern Commercial Congress, the Ninth Annual Convention of the.....	383
The American Chamber of Commerce of Mexico.....	524
Washington, D. C., Pan American mass, the.....	570
Women's Auxiliary Conference of the Second Pan American Scientific Congress.....	380
Uruguay, Pan American Conference on Child Welfare, the Second.....	519
Venezuela, Pan American fellowship awarded to Miss Virginia Pereira Alvarez.....	524
Pan Americanism, The Growing Spirit of.....	
Pan American Union:	
Addresses by members of the Governing Board of the.....	640
Director General, address by the.....	642
PARAGUAY:	
Agricultural Bank, report of the.....	275
Agriculture, development of.....	414
Asuncion, Board of Trade of.....	274
Automobile club.....	535
Bank of the Republic.....	605
Bottles, exportation prohibited.....	605
Budget, general.....	835
Bureaus, new.....	604
Cattle exports.....	133
Chamber of Commerce, proposed building of.....	414
Commercial salesmen.....	414
Commerce, foreign.....	275
Customs revenues.....	275
Department of Labor, Arbitration, and Conciliation.....	695
Economic situation.....	830
El Diario, anniversary number of.....	414
Frigorifico concession.....	415
Homestead law, new.....	414
Independence anniversary.....	133
Industrial and commercial agency in Villarrica.....	275
International Products Companies.....	835
Kaolin deposits.....	133
Letters, requisitorial and rogatory.....	695
Meat-packing plant, establishment of.....	275
Mercantile Bank extensions.....	132
Packing plants.....	133
Palms, order about the cutting of.....	695
Paraguay Packing & Cold Storage.....	555
Pensions.....	695
Police force.....	836
Rice districts.....	133
Sanitarium, new.....	836

	Page.
PARAGUAY—Continued.	
Steamer, sale of one	<u>836</u>
Sugar-cane cultivation	<u>555</u>
Sugar—	
Production	<u>605</u>
Report	<u>132</u>
Telephone line	<u>555</u>
Treaty of commerce with Uruguay	<u>695</u>
Typographic Benevolent Society	<u>133</u>
Vegetable oils, manufacture of	<u>555</u>
Wheat cultivation	<u>132</u>
Ybycui Iron Foundry	<u>133</u>
PERU:	
Agricultural and mining products	<u>836</u>
Agricultural bank, establishment of	<u>277</u>
Agricultural experiment station	<u>837</u>
Alcoholic beverages, campaign against	<u>415</u>
Arbitration treaty with Uruguay	<u>416, 696</u>
Auriferous sands	<u>276</u>
Automobile road proposed	<u>134</u>
Baptismal font, discovery of a	<u>836</u>
Bonds of the internal debt	<u>556</u>
Boy Scouts	<u>416</u>
Budget, expense	<u>606</u>
Cabinet, reorganization of	<u>276, 556</u>
Commerce, foreign	<u>556, 696</u>
Congress, decree convoking	<u>134</u>
Copper mine	<u>836</u>
Copper, production of	<u>415</u>
Cotton exports	<u>134</u>
Fishing with dynamite prohibited	<u>134</u>
Food crops	<u>415</u>
Freight tariffs, new	<u>277</u>
Gold coins	<u>606</u>
Highway, proposed	<u>415</u>
Indigent children, care of	<u>606</u>
Infantile mortality	<u>837</u>
International postal arrangements	<u>556</u>
Loan for sanitation works	<u>606</u>
Military hospital	<u>276</u>
Military register	<u>556</u>
Mining Congress, the First National	<u>135</u>
Monument to Manco Capac	<u>837</u>
National Library	<u>636</u>
National Pedagogic Congress	<u>836</u>
Peruvian Prosperity	<u>734</u>
Petroleum shipments	<u>134</u>
Police force	<u>556</u>
Postal and telegraph receipts	<u>556</u>
Railways	<u>276, 836</u>
Rice, production of	<u>606, 837</u>
Royal Spanish Academy, new members	<u>134</u>
Rubber exports	<u>276, 686</u>

	Page.
PERU—Continued.	
School registration-----	556
Sheep raising-----	133
Silver and gold bullion, payment for-----	276
Stamped paper-----	276
Stock and industrial exposition-----	134
Telegraph service, unification of-----	134
Visit of Argentine training ship-----	416
Wharf at Fronton Island-----	277
Wireless telegraph service-----	556
Peru, Prosperity in-----	734
Peruvian Prosperity-----	734
Platinum—With Special Reference to Latin America-----	606
Root, Mr. Elihu, on the Monroe Doctrine-----	750
SALVADOR:	
Agricultural Aid Society-----	136
Arbor Day celebration-----	135
Artesian wells-----	838
Ashes of San Salvador volcano-----	838
Atheneum of Salvador-----	278
Automobile register-----	557
Balsam, machine for the extraction of-----	417
Book, new-----	838
Bridge construction-----	136
Buildings, reconstruction of public-----	416
Children's free dispensary-----	697
Central American Congress-----	697
Coffee cultivation-----	278
Commerce, foreign-----	277, 557
Consular law-----	277
Corn, cultivation of-----	838
Demographic statistics-----	838
Designates, election of presidential-----	416
Electric light and power plant-----	557
Gymnasium contests-----	837
House and building construction company-----	697
Hydrotherapeutic baths-----	136
Ice factory, new-----	135
Indian corn production-----	416
International Commercial Association-----	277
International railway-----	697
Iron mine-----	417
Iron-ore deposits, discovery of-----	277
Metapán, electric plant in-----	837
Meza, Dr. Carlos A.-----	649
National budget-----	557
Parcel-post convention with the United States-----	697
Plants, cultivation of producing-----	135
Pottery vases, discovery of-----	136
Public debt-----	557
Road-building fund, creation of a-----	136
San Carlos College in Santiago de Marfa-----	557

SALVADOR—Continued.

San Salvador—	
Electric tramway service.....	277
Mexican Legation building.....	837
Night school in.....	135
Paving of streets in.....	135
San Miguel Hospital.....	417
Santa Ana, new theater in.....	136
Scientific contest essays.....	838
School for the correction of minors.....	557
Timbers, new law about.....	417
Tuberculosis sanitarium.....	837
Wheat, cultivation of.....	417
Wireless telegraph station.....	697

Scientific Teaching of Spanish and Other Languages.....**South American Port Improvements:**

East Coast.....	1
West Coast.....	141
Southern Commercial Congress in New York, Addresses Before the.....	640
The Call for Foods: South America's Answer.....	561
The Schoolmaster of Trade.....	600
The Town of Baracoa and the Eastern Part of Cuba.....	627
Trade, The Schoolmaster of.....	600
Travels in Ecuador.....	719
Through Costa Rica, the Magnificent, on a Motor Car.....	579
Through the Marvelous Highlands of Guatemala.....	464
Turquoise in Spanish America, The.....	281

UNITED STATES:

Bartlett, Paul Wayland, the sculptor.....	351
Construction of highways.....	786
Detroit as a manufacturing city.....	303
Foster, Hon. John Watson.....	646
Harvey, Mr. Roland B.....	650
Increase of Trade with Latin America.....	393
Mesa Verde National Park.....	230
Melvin, Dr. Alonzo D.....	758
Scientific Teaching of Spanish and Other Languages.....	497
Stutesman, Mr. James Flynn.....	756
Teaching gardening in elementary schools.....	215
Weinman, Adolph Alexander, the sculptor.....	774

URUGUAY:

Agricultural loans.....	608
Alfalfa cultivation.....	137
American solidarity, ideals of.....	558
Bank of the Republic.....	279
Banks, condition of.....	698
Budget for 1917-18.....	838
Cabinet change.....	186
Charity board, reorganization of the.....	138
Census of fowls.....	278
Cereals, increase of cultivation of.....	559
Commerce, foreign.....	279, 559
Commercial high-school curriculum.....	137

URUGUAY—Continued.

	Page.
Constitution—	538
Draft of the new—	418
Reform of the—	138
Degree of Doctor in Medicine, new law for the obtention of—	139
Division fleet, new—	138
Dolores, new port of entry—	279
Economic situation—	698
Electric installations—	558
Exports, prohibition of—	839
Flower exhibit—	839
Fowls, statistics of domestic—	559
Glue factory—	558, 839
Gold, stock of coined, in the Republic—	559
Hunting regulations, new—	136
Industrial night courses—	698
International stock fair—	278
Liebig's Extract—	839
Montevideo-São Paulo train service—	278
Montevideo, The City of Roses —	435
Mortgage loans—	698
Navigation restrictions—	137
North American squadron, visit of the—	559
Pan American political solidarity—	550
Pan Americanism, The Growing Spirit of —	421
Pocitos, Famous Seaside Resort —	172
Population of the Republic—	137
Portuguese, teaching of—	839
Presidential candidate—	558
Professors, interchange of—	136
Railway, purchase of—	279
Railway tariffs—	279, 559
Sanitary law—	138
Scholarship—	279
Seeds, appropriation for—	137
Seine and net fishing—	279
Ship Goritzia—	417
Silk fabrics, importation of—	139
Sinking of the Rosario—	558
Stock fair—	839
Storage plant—	839
Transit commerce commission—	558
Trees, distribution of—	137
Uruguayan Society of International Law—	698
Wheat—	
Exportation prohibited—	559
Harvest—	137
VENEZUELA:	
Agricultural and silvicultural experiment station—	500
Aloe plant—	700
Bank, branch—	700
Bank of Venezuela—	500
Bean-hulling machine—	700

VENEZUELA—Continued.	Page.
Bureau of Internal Revenue	700
Cabinet, new	559
Canned goods, reduction of duties on	420
Coffee production	420
Commercial school	500
Cotton, cultivation of	840
Farm, modern heron	560
Government budget	279
La Guaira, exports from	280
Land under cultivation	280
Laws passed	280
Legation, new	839
Liquors, imports of	280
Maracaibo, electric tramway in	140
Marble busts	840
Medical Congress, Second Venezuelan	280
Message of the President of the Republic	139
Mineral products, exportation of	280
Mines, technical inspector of	560
Municipal revenues	840
National Academy of Medicine, corresponding members	700
National dry-dock receipts	700
Oil lands leased	140
Oil refinery	700
Paper factory	140, 420, 560
Ports of entry, change of	280
President of the Republic, message of the	139
Printing, anniversary of the introduction of	840
Prize won by a Venezuelan in the United States	419
Railways	140, 419, 840
School of Arts and Crafts	140
Seeds, distribution of	139
Stamp tax	140
Suspension bridge	700
Tannic acid	419
Telephone lines	140, 420, 560
Urao Lagoon concession	560
White herons, protection of	700
Wireless telegraph school	280

INDEX TO ILLUSTRATIONS.

Adams, Herbert, photographs illustrating the works of the sculptor	94-103
Andes, first automobile trip over the	300-313
ARGENTINA :	
Bahia Blanca—	
Part of the docks of the Southern Railway	22
View of the giant grain elevators	22
Battery of binders in a wheat field	562
Buenos Aires—	
General plan of the port	16

ARGENTINA—Continued.

Buenos Aires—Continued.

	Page.
North American squadron, visit of the—	431
Crowds gathered to witness the arrival of the squadron	434
Placing of floral wreath at the statue of San Martin	434
Placing of floral wreaths at the Statue of Washington	434
Visit of Admiral Caperton to the President of the Republic	432
Scene from the deck of a departing ocean liner	18
South dock	18
The "grain battery"	18
Views of the grain wharves	19
Daireaux, Capt. Carlos G	68
Ingemiero White, Bahia Blanca, section of the port	21
La Plata, section of the port	21
Mar del Plata—	
Distant views of	174
On the sands	175
Partial view of the resort	173
Picturesque sight on the sands	181
Rambia, the structure fronting the sea	178, 179
Scenes during the bathing hour	177
Pardo de Tavera, Félix, photographs illustrating the works of the sculptor	652-658
Pueyrredon, Dr. Julio	647
Ushuaia, forest lake and mountain scene in	1
Automobile trip over the Andes, photographs illustrating the article about the first	300-313
Barros Pinzental, Sr. José Francisco de, minister of Brazil at Caracas, Venezuela	106
Bartlett, Paul Wayland, photographs illustrating the works of the sculptor	351-362
BOLIVIA:	
Agricultural scenes in	573
Arica-La Paz Railway, one of the deep cuts on the	480
Condor, one of the highest railroad stations	484
Coroico—	
A glimpse of the town of	487
View of	479
Group of special ambassadors attending the inauguration of the President of Bolivia	520
Highway scene near Sucre	493
Map showing the railroads	482, 483
Mule team on the highway between Atocha and La Quiaca	495
Pando, Gen. José Manuel	65
Picturesque point on the highway between Potosí and Sucre	492
Pulacayo, a typical freight station in the western part	485
Railroad station in the tin-producing region	484
Type of locomotive used on the railways	492
Well-constructed bridge in the interior	494
Yungas region—	
A view of the	490
Picturesque landscape in the	489
Scene in the	488
Zalles, Sr. Jorge E	327

BRAZIL:	Page.
A manatee from the Amazon River-----	242
A Waiwai pig trap-----	768
Bahia—	
One of the vessels of the Lloyd Brazileiro at her dock-----	6
Scene on the water front-----	6
Views of the city-----	50
Barros Pimentel, Sr. José Francisco de, minister at Caracas, Venezuela-----	106
Cattle industry in-----	55
Cruz, Dr. Oswaldo Gonçalves-----	504
Diau girl-----	764
Diau Indians-----	762
Diau women-----	766
Fortaleza—	
Government palace-----	47
Street scene-----	47
View of the city from the harbor-----	47
Manioc—	
A field of-----	192
Drying the grated pulp over a slow fire-----	195
Rodete, the mill used for grinding roots of-----	193
Military commission to the United States-----	809
Pará—	
Dry dock at-----	8
Home of half-breed Indian-----	331
Mission of São Antonio do Prata-----	331
Modern docks at-----	2
Museu Goeldi-----	333, 335
Theatro da Paz, in the Parque João Coelho-----	45
View of the port-----	45
Pernambuco—	
Section of the breakwater-----	3
Section of the wall of the inner port-----	4
The great breakwater-----	4
Porto Alegre—	
Partial view-----	9
View of the city-----	61
Recife (Pernambuco)—	
Capibaribe River wharf-----	48
Lighthouse-----	48
Praia do mar-----	48
Quay for ocean vessels-----	48
Rio de Janeiro—	
Building of the Ministry of Agriculture, Industry, and Commerce-----	57
Completed section of piers-----	7
Municipal Theater-----	57
North American squadron, visit of the—	
Admiral Caperton and some of his officers on the top of Corcovado-----	425
Ball given in honor of Admiral Caperton and his officers-----	425
Marines and sailors parading the streets-----	423
President of Brazil visiting Admiral Caperton on board the flagship-----	422

BRAZIL—Continued.

Rio de Janeiro—Continued.	
Praia de Assucar.....	57
Pharoux, a beautiful passenger landing.....	9
Sea wall under construction.....	7
Section of the sea wall nearing completion.....	7
The Minas Geraes in the bay.....	57
Rio Grande do Sul—	
Section of the new water front.....	12
The port.....	60
Santos—	
The Santa Casa de Misericordia.....	60
View of the harbor.....	10
View of the upper bay.....	10
São Paulo—	
Colony coffee plantation.....	44
Main building of a coffee fazenda.....	58
Street in.....	58
The Normal School.....	58
Students picking cotton at an agricultural college.....	52
Sugar industry in.....	566
Taking cotton from the gin to the railway.....	54
The "Instituto Oswaldo Cruz" at Manguinhos.....	506
Waiwai Indian in dance costume.....	781
Bread, wanted a new, photographs illustrating the article on.....	180-204
Calories in principal food substances.....	811
Canada, the Alexander Graham Bell Monument at Brantford Ontario.....	671
Carranza, Gen. Venustiano, President of Mexico.....	281
Carrefio, Madame Teresa.....	65
Central America, bananas as cut from the plant in.....	190
CHILE:	
Antofagasta, view of the port.....	152
Concepción, the city of.....	142
Coronel, views of the method of handling cargo.....	145
Cruz Grande, the port of.....	151
Dittborn, Commander Julio.....	68
Ewing, Maj. Alfredo.....	68
Iquique, showing the pier.....	152
Lota, the port of.....	152
Salinas, Sr. Manuel.....	65
San Antonio, the new port of.....	151
Scene on a sheep ranch in.....	568
Talchuan, section of the dry docks.....	143
The President of the Republic and his cabinet.....	701
Valparaiso—	
Construction scenes on the harbor.....	148, 149
Plan of port works.....	146
COLOMBIA:	
Bogotá—	
Building of the Faculty of Law and Political Science.....	92
Central School of Arts and Crafts.....	92
Post-office building.....	91
Presidential palace.....	90
Cartagena, section of the historic sea wall.....	100

	Page.
COLOMBIA—Continued.	
Cattle industry in—	577
Delgado, Sr. Dr. Alfonso, secretary of the legation at Washington—	108
Falls of Tequendama—	88
Golden relic of the Chibchas—	87
Hurtado, Sr. José Marcellino—	324
Lake Guatavita—	87
Platinum in—	
Andagoya, the center of platinum—	609
Dredge operating on the Rio Condoto—	613
Grains of crude platinum—	613
Nuggets found in the Choco region—	615
Scene on one of the rivers—	611
Washing the streets of Quibdo—	611
Puerto Colombia, view of the steel pier—	160
COSTA RICA:	
Banana industry—	505
Boy working on a plantation of coffee—	592
Cartago, general view—	580
Cotton plantation—	506
Limón—	
Pier in—	580
Railway yards and warehouses in—	580
Phases of coffee production—	593
Puntarenas—	
One of the parks—	598
Raising of turtles—	598
Section of the beach—	598
Railway passenger train at Sequirres—	581
Reventazón River, tropical forest scene on the—	581
San José—	
Artillery barracks—	589
Avenida Central—	584
Crowd on the steps of the cathedral—	583
General view of—	583
Interior view of one of the creameries—	590
Motor car of the post office—	590
New post-office building—	587
One of the principal hostellries—	587
Street with imposing buildings—	584
The insane asylum—	589
The new penitentiary—	589
Typical residences of—	586
View of the columns of the cathedral—	584
Tobacco plantation—	596
Typical settlement of workers in a coffee plantation—	592
Zent, a picturesque railway station—	581
Creighton, Mr. George Wishart—	324
Cruz, Dr. Oswaldo Gonçalves—	504
CUBA:	
Baracoa, general view of—	628
Coffee cultivation—	628
Dairiquí, docks at—	634
Diagrammatic view of club members in Habana—	42

	Page.
CUBA—Continued.	
Ferry over the Yumuri River.....	628
González Lanuza, Dr. José Antonio.....	324
Habana—	
Asociación Canaria and "Veteranos de la Independencia" clubs.....	35
Bathing beach of the Habana Yacht Club.....	39
Caino Español, main stairway.....	33
Centro Asturiano.....	31
Centro de Dependientes.....	28
Centro de Dependientes, grand ballroom.....	30
Centro Gallego, cover of the yearbook of the.....	34
Centro Gallego, general view.....	25
Centro Gallego, grand stairway.....	26
Centro Gallego, the ballroom.....	27
Country Club.....	36
Home of the Habana Yacht Club on Marianao Beach.....	37
Quinta Covadonga.....	31
The Young Men's Christian Association.....	41
Vedado Tennis Club.....	40
Vista del Paseo de Martí.....	32
Mayari River, view of.....	632
Nipe Bay district, scene in a modern settlement in.....	631
Nipe Bay, view of.....	638
Picturesque region traversed by the railroad in reaching Nipe Bay.....	630
Preston, on Nipe Bay.....	630
Cuestas, Dr. Juan L.....	324
Daireaux, Capt. Carlos G.....	68
Delgado, Sr., Dr. Alfonso, secretary of the legation of Colombia at Washington.....	108
Dittborn, Commander Julio.....	68
DOMINICAN REPUBLIC:	
Higuey, the church at.....	319
La Romana, the public well in.....	319
Scenes near El Salado, on the east coast.....	316
ECUADOR:	
Cacao workers.....	599
Coconut trees.....	724
Duram, the railway terminus opposite Guayaquil.....	721
Quayaquil & Quito Railroad—	
The Devil's Nose.....	722
Trestle on the Nose.....	724
Guayaquil, the chief port of.....	158
Guayas River, scene on the.....	729
Mount Chimborazo, distant view.....	732
Mountain stream.....	725
Prehistoric ornaments of gold and platinum found in.....	618
Quito—	
Independencia Plaza.....	731
Street scenes in.....	729
View near, showing a section of motor-car highway.....	731
View of.....	728
Subtropical vegetation at an altitude of 4,000 feet.....	732
The fountainhead of an irrigation system.....	726

	Page.
Ewing, Maj. Alfredo—	68
Food substances, calories in principal—	811
Foster, Hon. John Watson—	647
Goebel, Mr. Peter W.—	327
González Lanuza, Dr. José Antonio—	324
GUATEMALA:	
A cascade near Lake Atitlán—	468
Antigua—	
Ruins of the Church of the Recolección—	472
View of the city—	472
Bridge on the road between Quetzaltenango and Totonicapan—	474
Guatemala—	
Distant view of the city—	485
Plaza decorated for the "Festival of Minerva"—	487
Soldiers in the main plaza—	487
Two Indians standing on El Campan Hill with the city in the background—	485
View of the city looking toward the cathedral—	485
Lake Amatitlán—	
Bridge crossing of the narrow sections—	476
Old bridge built by the Dominican friars over the outlet of the—	476
View of the—	476
Views—	469, 471
Members of the special mission to the United States—	522
One of the beautiful mountain roads—	474
View of a plantation—	474
Guiteras, Dr. Ramón—	758
Harvey, Mr. Roland Bribendall—	647
Hawaii, taros in—	190
Hurtado, Sr. José Marcellino—	324
Melvin, Mr. Alonzo D.—	758
MEXICO:	
Carranza, Gen. Venustiano, President of the Republic—	281
Fabelo, Dr. Isidro, minister to Uruguay, after presenting his credentials to the President—	105
Querétaro—	
Aqueduct, section of the—	211
Front of the church of San Felipe de Neri—	212
Monument to Doña Josefa Ortiz de Dominguez—	209
Mural paintings in the Sacristy of Santa Rosa—	214
Statute of the Marques de la Villa del Villar—	209
Zenea Plaza—	207
Meza, Dr. Carlos A.—	647
NICARAGUA:	
A stream in the lowlands—	703
Bridge over the Chiquito River—	709
Castillo Rapids—	
Near the—	704
View of the region in the vicinity of—	704
Corinto, the chief port of the Pacific—	703
Granada—	
Street scene—	707
The Tower of La Merced—	707

	Page.
NICARAGUA—Continued.	
Grinding arrowroot preparatory to making bread.....	<u>717</u>
León—	
Hotel building	<u>709</u>
Street in.....	<u>709</u>
The cathedral.....	<u>711</u>
View of the city.....	<u>711</u>
Managua—	
Campo de Marte, entrance to.....	<u>705</u>
One of the newer streets and the park La Reforma.....	<u>705</u>
The residence of the President of the Republic.....	<u>705</u>
Matagalpa, general view of.....	<u>713</u>
San Juan del Sur looking shoreward from a steamer in port.....	<u>704</u>
Simple device used for grinding corn.....	<u>717</u>
Sugar factory	<u>715</u>
Volcano Momotombo	<u>713</u>
Volcano Momotombo, distant view.....	<u>702</u>
Palma, Sr. Ricardo.....	<u>327</u>
Pan American Union:	
Governing Board in session.....	<u>561</u>
Illumination of the Aztec Gardens in the rear of the building at the reception given in honor of the Japanese mission to the United States.....	<u>386, 388</u>
Root, Mr. Elihu, bust presented to the.....	<u>732</u>
Pando, Gen. José Manuel.....	<u>65</u>
Paraguay, scene in the yerba maté forests.....	<u>563</u>
Pardo de Tavera, Félix, photographs illustrating the works of the Argentine sculptor.....	<u>652-658</u>
Pearl Island of the Pacific, scenes taken in the.....	<u>72-75</u>
PERU:	
A tapir.....	<u>607</u>
Agricultural valley west of the Andes.....	<u>745</u>
Agualand Canyon.....	<u>685</u>
Andean potato fields.....	<u>737</u>
Arequipa—	
Cotton mill located in.....	<u>743</u>
Interior view of a foundry in.....	<u>743</u>
Callao, view of the port.....	<u>155</u>
Chicamita Canal.....	<u>575</u>
Cerro de Pasco, views of the great mining plant at.....	<u>83-85</u>
Few of the oil wells in the Zorritos district.....	<u>742</u>
Huanuco, a glimpse of.....	<u>748</u>
Interior view of a section of a wool warehouse.....	<u>742</u>
Jaguar, shot by a gun trap.....	<u>687</u>
Lima—	
Institute of Hygiene.....	<u>736</u>
Paseo Colón	<u>735</u>
Plaza Bolognesi.....	<u>736</u>
The Museum.....	<u>726</u>
Llamas on the highlands.....	<u>663</u>
Masks, specimen of ancient Aztecs.....	<u>289, 291</u>
Mills of Sausal.....	<u>746</u>
Mollendo, the port of.....	<u>154</u>
Palma, Sr. Ricardo.....	<u>327</u>

	Page.
PERU—Continued.	
Paita, view of the port.....	157
Properties near the Lake Titicaca.....	740
Quichua peasant women on the highlands.....	681
Relics of Aztecs art.....	292
Road through a virgin region east of the Andes.....	749
Rubber picker of the montaña.....	667
Scene in the mining region.....	739
Scene in the region east of Tarma, showing a plantation.....	746
Scene near Tamboras.....	740
Sugar refinery, view of the interior of a.....	575
Tarma, scene in the town of.....	748
Turquoise used in mosaic work by the Aztecs.....	288
Philip, Hon. Hoffman, envoy extraordinary and minister plenipotentiary of the United States in Colombia.	247
Platinum—with special reference to Latin America, photographs illustrating the article on.	606-625
Pueyrredon, Dr. Julio.	647
Robbins, Mr. Warren D., first secretary of the United States Embassy at Buenos Aires, Argentina.	107
Rodó, Sr. José Enrique.....	65
Root, Mr. Ellihu, bust presented to the Pan American Union.....	752
Salinas, Sr. Manuel.....	65
Salvador, Meza, Dr. Carlos A.....	617
Solar system, photographs illustrating the article about the.....	375-378
Soria Galvarro, Sr. Roberto.....	758
South America, a vampire.....	669
Stahler, Mr. Jordan Herbert, Chief of the Division of Latin American Affairs in the Department of State of the United States.....	248
Statesman, Mr. James Flynn.....	758
Tapestries and carpets loaned by the King of Spain, exhibition in the United States of.....	509-517
Trinidad dasheens.....	201
Turquoise in Spanish America, photographs illustrating the article on.	282-297
UNITED STATES:	
Adams, Herbert, photographs illustrating the works of the sculptor.....	94-103
Bartlett, Paul Wayland, photographs illustrating the works of the sculptor.....	351-362
Brazil's military commission to the.....	800
Breads, combination of.....	202, 204
Christening of a new steamer to ply between New York and Valparaiso by the ambassador of Chile.....	521
Classic drama at the chautauqua of Boulder, Colo.....	339
Corn, a well-cultivated field of.....	189
Creighton, Mr. George Wishart.....	324
Democratizing art in Minnesota.....	341
Detroit—	
Business structures.....	306
Cadillac Square.....	308
Grand Boulevard.....	370
Interior of an automobile factory.....	371
Scene in Belle Isle Park.....	370
Section of the city from the Detroit River.....	304
Station of the Michigan Central Railroad, new.....	365

UNITED STATES—Continued.	
Detroit—Continued.	
Steamers in the Detroit River.....	373
The automobile industry.....	372
The heart of the business section of the city.....	367
View of the main business section.....	364
Feterita—	
Field of.....	770
Harvesting in Texas.....	771
Two heads of.....	773
Field of Kafir corn in Kansas.....	774
Foster, Hon. John Watson.....	647
Goebel, Mr. Peter W.....	327
Harvey, Mr. Roland Bribendall.....	647
Highways, the construction of, photographs illustrating the article on.....	788-806
Manatee from Florida.....	245
Members of the Guatemalan special mission to the.....	522
National parks, Mesa Verde.....	231-240
New York—	
Celebrating Columbus Day.....	421
The great Red Cross parade.....	526
The great Red Cross parade, the Sousa Band in.....	527
New York Chautauqua, typical scenes at the.....	338
Pan American Society of the United States, officers of the.....	381
Pan Americanism, the growing spirit of, photographs illustrating the article on.....	422-434
Phillip, Hon. Hoffman, envoy extraordinary and minister plenipoten- tiary of the United States to Colombia.....	247
Practical and picturesque sides of summer schools.....	345
Pueblo Indian drilling turquoise beads.....	297
Robbins, Mr. Warren D., first secretary of the United States Em- bassy at Buenos Aires, Argentina.....	107
School gardening in elementary schools.....	216, 217, 219, 220, 222
Stabler, Mr. Jordan Herbert, Chief of the Division of Latin Ameri- can Affairs in the Department of State.....	248
Summer school group on a mountain climb in Colorado.....	343
Sweet potatoes.....	196
Tapestries and carpets loaned by the King of Spain, photographs of.....	500-517
Textile art—	
Artistic design used in American silks.....	348
Designs for silk patterns based on aboriginal American art.....	347
Striking designs for American silks.....	350
Turquoise—	
Found in the, specimens of.....	285
Localities in New Mexico.....	282, 283
Objects decorated with, from ancient pueblo.....	294, 295
Washington, D. C.—	
High officials of the Government engage in physical training.....	523
Lighting the Fires of Liberty.....	525
McMillan Park.....	100
Wheat field in the State of Washington.....	198

	Page.
UNITED STATES—Continued.	
Weinmann, Adolph Alexander, photographs illustrating the works of the sculptor.....	776-786
Wigmore, Prof. John H.....	327
Wilson, Woodrow, President of the, and his Cabinet.....	141
Wittmeyer, Lieut. Col. Edmund.....	68
Urribalda Vierge, Daniel, the greatest of all pen and ink illustrators, drawings of.....	224-229
URUGUAY:	
Capurro, one of the resorts at Montevideo.....	187
Carrasco, popular bathing resort.....	186
Cuestas, Dr. Juan L.....	324
Locusts, efforts to exterminate the.....	503
Montevideo—	
Avenidas 18 de julio	443
Building of the Academic Department of the University.....	455
Building of the College of Law of the University.....	455
Building of the Engineering Department of the University.....	458
Building of the Medical Department of the University.....	455
Calle Sarandí.....	445
Chemical Institute.....	457
Dock scene.....	440
Garden of roses in the Prado.....	449
Italian hospital.....	460
Maciel wharf.....	439
Military hospital.....	458
Minister of Mexico, Dr. Isidro Fabelo, leaving the Government palace after presenting his credentials.....	105
Near view of Dock "A".....	15
North American squadron, visit of the—	
Admiral Caperton and officers of the fleet as official guests at the race track.....	428
Decoration of the Statue of Liberty.....	429
Part of a crowd in front of the American Legation.....	426
Portion of the crowd on the dock.....	426
Penitentiary.....	462
Plaza Cagancha.....	446
Plaza Independencia.....	448
River steamers taking on passengers.....	440
Scene in one of the parks.....	440
Section of the city showing the arrangement of breakwaters.....	13
School of Agriculture at Sayago.....	457
Solis Theater.....	446
Typical public school of primary grade.....	457
Urbano Park—	
Artificial lake of the.....	442
Shady road in.....	451
View of a part of the harbor.....	13
View of a portion of the city.....	442
View of the city in 1861.....	437
View of the city taken from Urbano Park.....	442
View of the harbor and city during the first part of the nine- teenth century.....	436

URUGUAY—Continued.

	Page.
Pocitos—	
Pier at.....	183
Rambla and beach at.....	454
Section of the resort.....	182
Street in.....	452
Ramirez—	
General view of.....	186
Hotel and bathing beach.....	185
Rodó, Sr. José Enrique.....	65
VENEZUELA:	
Carúpano, the port of.....	163
Carreño, Madame Tersa.....	65
Drying tonqua beans at Borburata.....	571
Guanta, the port of.....	164
La Guaira, the port of.....	163
Maracaibo—	
Bolívar Statue in Central plaza.....	81
Shipping in the harbor.....	79
Street scene along the water front.....	81
Street scene during a holiday.....	79
View of central section.....	77
Puerto Cabello, the floating dry dock.....	161
Second Venezuelan Medical Congress, delegates to the.....	384
Wigmore, Prof. John H.....	327
Weinman, Adolph Alexander, photographs illustrating the works of the sculptor.....	776-786
Wilson, Woodrow, President of the United States, and his Cabinet.....	141
Wittenmeyer, Lieut. Col. Edmund.....	68
Zalles, Sr. Jorge E.....	327



ARGENTINA • BOLIVIA • BRAZIL • CHILE • COLOMBIA

DECEMBER

1917

9806

P191

BULLETIN OF THE

PAN AMERICAN UNION

JOHN BARRETT, DIRECTOR GENERAL.
FRANCISCO J. YÁÑES, ASSISTANT DIRECTOR.



THE NEW CAPITOL, HABANA, CUBA.

PANAMA • NICARAGUA • MEXICO • HONDURA

COSTA RICA • CUBA • DOMINICAN REPUBLIC • ECUADOR • GUATEMALA • HAITI

GOVERNING BOARD OF THE
PAN AMERICAN
UNION

ROBERT LANSING, Secretary of State of the United States,
Chairman *ex officio*.

AMBASSADORS EXTRAORDINARY AND PLENIPOTENTIARY

Argentine Republic....Señor Dr. RÓMULO S. NAÓN,
Office of Embassy, 1806 Corcoran Street, Washington, D.C.
Brazil.....Senhor DOMÍCIO DA GAMA,
Office of Embassy, 1780 Massachusetts Avenue, Washington, D.C.
Chile.....Señor Don SANTIAGO ALDUNATE,
Office of Embassy, 2223 R Street, Washington, D.C.
Mexico.....Señor Don IGNACIO BONILLAS,
Office of Embassy, 1413 I Street, Washington, D.C.

ENVOYS EXTRAORDINARY AND MINISTERS PLENIPOTENTIARY

Bolivia.....Señor Don IGNACIO CALDERÓN,
Office of Legation, 1633 Sixteenth Street, Washington, D.C.
Colombia.....Señor Dr. CARLOS ADOLFO URUETA,
Office of Legation, 1337 Connecticut Avenue, Washington, D.C.
Cuba.....Señor Dr. CARLOS M. DE CÉSPEDES,
Office of Legation, 2630 Sixteenth Street, Washington, D.C.
Ecuador.....Señor Dr. RAFAEL H. ELIZALDE,
Office of Legation, 1006 Sixteenth Street, Washington, D.C.
Guatemala.....Señor Don JOAQUÍN MENÉZ,
Office of Legation, 1810 Connecticut Avenue, Washington, D.C.
Haiti.....M. SOLON MÉNOS,
Office of Legation, 1429 Rhode Island Avenue, Washington, D.C.
Honduras.....Señor Dr. ALBERTO MEMBREÑO.¹
Panama.....Señor Dr. BELISARIO PORRAS,
Office of Legation, 1019 Sixteenth Street, Washington, D.C.
Paraguay.....Señor Dr. HÉCTOR VELÁZQUEZ,¹
Office of Legation, 1678 Woolworth Building, New York City.
Peru.....Señor Don M. DE FREYRE Y SANTANDER,
Office of Legation, 1500 Vermont Avenue, Washington, D.C.
Salvador.....Señor Dr. RAFAEL ZALDIVAR,
Office of Legation, 1722 Massachusetts Avenue, Washington, D.C.
Uruguay.....Señor Dr. CARLOS M. DE PEÑA,
Office of Legation, 1731 N Street, Washington, D.C.
Venezuela.....Señor Dr. SANTOS A. DOMÍNICI,
Office of Legation, 1406 Massachusetts Avenue, Washington, D.C.

CHARGÉS D'AFFAIRES

Dominican Republic....Señor Dr. LUIS GALVÁN,
Office of Legation, "The Champlain," Washington, D.C.
Honduras.....Señor Don R. CAMILO DÍAZ,
Office of Legation, "The Northumberland," Washington, D.C.
Nicaragua.....Señor Don RAMÓN ENRIQUEZ,
Office of Legation, "The Portland," Washington, D.C.

¹ Absent.

[Costa Rica has at present no representative on the governing board.]

UNITED STATES REPRESENTATIVES IN THE LATIN AMERICAN REPUBLICS

AMBASSADORS EXTRAORDINARY AND PLENIPOTENTIARY

Argentine Republic....FREDERIC J. STIMSON, Buenos Aires.
Brazil.....EDWIN V. MORGAN, Rio de Janeiro.
Chile.....JOSEPH H. SHEA, Santiago.
Mexico.....HENRY P. FLETCHER, Mexico.

ENVOYS EXTRAORDINARY AND MINISTERS PLENIPOTENTIARY

Bolivia.....JOHN D. O'REAR, La Paz.
Colombia.....HOFFMAN PHILIP, Bogota.²
Costa Rica.....EDWARD J. HALE, San Jose.
Cuba.....WILLIAM E. GONZALES, Habana.
Dominican Republic...W. W. RUSSELL, Santo Domingo.
Ecuador.....CHARLES S. HARTMAN, Quito.
Guatemala.....WILLIAM H. LEAVELL, Guatemala City.
Haiti.....A. BAILEY-BLANCHARD, Port au Prince.
Honduras.....JOHN EWING, Tegucigalpa.
Nicaragua.....BENJAMIN L. JEFFERSON, Managua.
Panama.....WILLIAM J. PRICE, Panama.
Paraguay.....DANIEL F. MOONEY, Asuncion.¹
Peru.....BENTON McMILLIN, Lima.
Salvador.....BOAZ W. LONG, San Salvador.
Uruguay.....ROBERT E. JEFFERY, Montevideo.
Venezuela.....PRESTON McGOWDIN, Caracas.

CHARGÉS D'AFFAIRES

Colombia.....PERRY BELDEN, Bogotá.
Chile.....FREDERIC OGDEN DE BILLIER, Santiago.
Paraguay.....LOUIS A. SUSSDORF, Jr., Asuncion.

¹Absent.

²Appointed.







UNIVERSITY OF TEXAS AT AUSTIN - UNIV LIBS



3022963087

0 5917 3022963087